DOCUMENT RESUME

ED 141 430 UD 016 928

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TITLE The Sensitivity of the Incidence of Poverty to Different Measures of Income: School-Aged Children and Families. The Measure of Poverty, Technical Paper XVII.
INSTITUTION Department of Health, Education, and Welfare, Washington, D.C. Office of the Assistant Secretary for Planning and Evaluation.
PUB DATE 10 Sep 76
NOTE 97p.; For related documents, see UD 016 918-929 and UD 017 087; Best copy available
AVAILABLE FROM Office of the Assistant Secretary for Planning and Evaluation, Department of Health, Education, and Welfare, 200 Independence Avenue, S.W., Room 443D-South Portal Building, Washington, D.C. 20201

EDRS PRICE MF-$0.83 HC-$4.67 Plus Postage.
DESCRIPTORS *Children; *Definitions; Demography; *Family (Sociological Unit); Family Characteristics; *Income; Low Income; Low Income Groups; Measurement Goals; Measurement Instruments; *Measurement Techniques; *Poverty Research

ABSTRACT

This study is a two-part analysis aimed at determining what differences occur in the incidence of poverty when different definitions of income are employed and when the time frame of analysis is changed. The first part of the analysis concentrates on school-aged children, while the second part studies families. The study is based on data from the Survey Research Center's Panel Study of Income Dynamics, for the years 1968-1972. For the analyses of school-aged children, all children in the panel between the ages of 5 and 18 in the spring of 1972 were counted, resulting in a sample of 5,834 children. For the family analysis those families in 1972 which included a male head from 1968, a female head from 1968, or the wife of a male head in 1968 were counted, resulting in a sample size of 4,010 families. In general, adjustments to annual family money income to account for certain costs of receiving income, and for certain non-money components of income, result in little change in the rank ordering in economic status of familes and children. The results also show that the incidence of poverty is higher for children than for families, by all measures. Although adjustments to annual money income can change a family's economic position, especially in moving it out of the poverty classification, the time period covered appears to be a more influential factor. A crude assessment of the effects of changing the measure of poverty on the relative number counted as poor in different sub-national areas was attempted. The results are inconclusive. Various policy implications stemming from the results of this study are given. (Author/AM)

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THE MEASURE OF POVERTY

Technical Paper XVII

The Sensitivity of the Incidence of Poverty
to Different Measures of Income:
School-Aged Children and Families

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By: Institute for Social Research
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U.S. Department of Health, Education, and Welfare

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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September 10, 1976

Virginia Trotter
Assistant Secretary for Education
Department of Health, Education,
and Welfare

William A. Morrill
Assistant Secretary for Planning
and Evaluation
Department of Health, Education,
and Welfare

I am pleased to forward Technical Paper XVII, "The Sensitivity of the Incidence of Poverty to Different Measures of Income: School-Aged Children and Families". It contains supporting data for the report entitled The Measure of Poverty which was prepared in compliance with section 823 of the Education Amendments of 1974. This paper was produced for the Poverty Studies Task Force, under contract to the Office of the Assistant Secretary for Education, by Richard D. Coe, Greg J. Duncan, F. Thomas Juster, and James N. Morgan, of the Survey Research Center, Institute for Social Research, The University of Michigan. It does not present the views of the Task Force as a whole or of individual members.

This paper presents a two-part analysis aimed at determining what differences occur in the incidence of poverty when different definitions of income are employed and when the time frame of analysis is changed. The first part of the analysis concentrates on school-aged children, while the second part studies families.

Bette Mahoney

Bette Mahoney
Chairman
Poverty Studies Task Force

PREFACE

> Section 823 of the Education Amendments of 1974 (PL 93-380) requires a thorough study of the manner in which the relative measure of poverty for use in the financial assistance program, authorized by Title I of the Elementary and Secondary Education Act of 1965, may be more accurately and currently developed.

That financial assistance program is administered by the Commissioner of Education, through the Office of Education, Department of Health, Education, and Welfare. An important feature is the use of a formula prescribed by Section 103 of the Elementary and Secondary Education Act for the annual distribution of Federal funds to school districts. A significant factor in the formula is the number of school-age children 5 to 17 in poor families within each school district. The measure of poverty which is used, and which is the subject of the study mandated by Section 823, is the Federal government's official statistical definition of poverty (also known as the Orshansky, OMB, Census Bureau, or Social Security poverty lines).

Other work related to poverty measurement has been called for in recent legislative acts. In the Comprehensive Employment and Training Act, the Secretary of Labor is directed to develop and maintain comprehensive household budget data at different levels of living, including a "level of adequacy." Any such review of the level of adequacy must necessarily be closely related to measures of poverty. The Housing and Community Development Act of 1974 gives the Secretary of HUD authority to adjust the poverty measure to reflect local variations in the cost of living. The Conference Report accompanying it directs the Secretary to develop or obtain data with respect to the "extent of poverty" by metropolitan areas and to submit such data to the Congress as part of a March 31, 1977, report.

Because of the broad scope of the subject matter, coverage of the study of the measure of poverty mandated by Section 823 of the Education Amendments of 1974 was extended to include implications of the study findings for the poverty-related programs of all affected Federal departments and agencies. The Title I program of the Elementary and Secondary Education Act was given the most detailed treatment, to meet the legislatively-mandated specifications for the study as well as to serve as a primary example of application of the concepts of poverty measurement to Federal programs. The findings of the study are published in a report entitled, "The Measure of Poverty." An important objective of the study was full discussion and documentation of the major elements of currently applied and potentially usable poverty measures. Material containing essential supporting documentation for the study was assembled as technical papers. These have been written to stand alone as complete technical treatments of specific subjects.

The study was performed under the direct guidance of a Poverty Studies Task Force of the Subcommittee on the Education of the Disadvantaged and Minorities, Federal Inter-Agency Committee on Education. Technical papers were prepared at the request of, under the direction of, and subject to review by the Task Force members. Some papers are primarily the work of one or two persons; these are attributed to their authors. Others result from the collective input of Task Force members or advisors and no specific attribution is given except to the Task Force as a whole.

The following listings show members of the Poverty Studies Task Force by appropriate Federal departments and agencies, and the titles and authors of the technical papers.

This report contains Technical Paper XVII, The Sensitivity of the Incidence of Poverty to Different Measures of Income: School-Aged Children and Families. This paper was produced for the Poverty Studies Task Force by Richard D. Coe, Greg J. Duncan, F. Thomas Juster, and James N. Morgan at the Survey Research Center, Institute for Social Research, The University of Michigan.

To obtain copies of the report, "The Sensitivity of the Incidence of Poverty to Different Measures of Income: School-Aged Children and Families", or any of the technical papers, please write to:

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Subcommittee on Education for the Disadvantaged and Minorities

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I.	Documentation of Background Information and Rationale for Current Poverty Matrix	Mollie Orshansky Social Security Administration
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III.	A Review of the Definition and Measurement of Poverty	Urban Systems Research and Engineering, Inc.
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VIII.	The 1972-73 Consumer Expenditure Survey	Jill King Mathematica, Inc.
IX.	Inventory of Federal Data Bases Related to the Measurement of Poverty (A) Non-Census Data Bases (B) Census Data Bases	Connie Citro, Mathematica, Inc. Bureau of the Census
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TECHNICAL PAPER XVII

THE SENSITIVITY OF THE INCIDENCE OF POVERTY TO DIFFERENT MEASURES OF INCOME: SCHOOL-AGED CHILDREN AND FAMILIES

ABSTRACT

This study is a two-part analysis aimed at determining what differences occur in the incidence of poverty when different definitions of income are employed and when the time frame of analysis is changed. The first part of the analysis concentrates on school-aged children, while the second part studies families. The study is based on data from the Survey Research Center's Panel Study of Income Dynamics, for the years 1968-1972. For the analyses of school-aged children, all children in the panel between the ages of 5 and 18 (inclusive) in the spring of 1972 were counted, resulting in a sample of 5,834 children. This definition of school-aged children differs slightly from that employed by the Bureau of Census, which defines a school-aged child as between the ages of 5 and 17 (inclusive). For the family analysis those families in 1972 which included a male head from 1968, a female head from 1968, or the wife of a male head in 1968 were counted. In effect, splitoff families formed by children leaving the original family were excluded from the analysis. This was necessary because five-year measures of poverty are difficult to apply to new families. The result was a sample size of 4,010 families. Because of this selective filtering, the sample for the family analysis is not a representative cross section of the entire population since it undercounts families with young heads.

In general, adjustments to annual family money income to account for certain costs of receiving income (namely, the payment of Federal individual income taxes and Social Security taxes) and for certain nonmoney components of income (food stamps, free housing and food, and the imputed rent of home owners) result in little change in the rank ordering in economic status of families and children. This is so despite the progressive nature of the Federal individual income tax. However, substantial changes occur in the incidence of poverty. Fewer families and children are poor when the adjustments are made. Elderly families benefit from their large amounts of imputed rent, while food stamps lift a significant number of children out of poverty. The results show that the incidence of poverty is higher for children than for families, by all measures. This is because families with more children are disproportionately poor, independent of race, and disproportionately black, a group which is more likely to be poor independent of family size.

Although adjustments to annual money income can change a family's economic position, especially in moving it out of the poverty classification, the time period covered appears to be a more influential factor. Overall, the incidence of five-year poverty as opposed to one-year poverty is lower for both families and children — by about 18 percent for

both groups. But, when these net figures are examined in greater detail, even more substantial changes are discovered. For example, 34 percent of the children who were poor when income was measured on an annual basis were not poor when money income was measured over a five-year period. On the other hand, 20 percent of the children who were poor by the longer-run measure were not poor by the annual measure. These changes are not distributed evenly across all demographic groups. Children in black families and in families with poorly-educated heads, who are disproportionately poor by the annual measure, are even worse off when a five-year measure is used, while whites and the better-educated, who are relatively unaffected by poverty in the short run, are even better off in the long run. As a result of this, both race and education are more powerful determinants of long-run poverty than of short-run poverty, with race being especially influential for children. One group of families who were disproportionately poor in the short run, but benefited somewhat by a longer time horizon were families with female heads. Although unmarried and with young children and thus more prone to poverty in a particular year, female heads are less likely to remain poor for longer periods of time.

A crude assessment of the effects of changing the measure of poverty on the relative number counted as poor in different subnational areas was attempted. The results are inconclusive. The correlations between different measures for 16 region-by-city size areas appear sufficiently high to indicate that the allocation of funds would probably not be significantly affected by examining subnational areas. However, still smaller areas might differ more in their relative mix of large families versus other poor or single families, or in the amount of instability of income from year to year, so that this tentative conclusion should be interpreted cautiously.

The policy implications of the results of this study can be summarized as follows:

1. Viewing poverty over a longer time horizon worsens the position of black families and families with poorly-educated heads, while improving the position of white families, families with better-educated heads, and female-headed families. This result has special significance for the Title I program. While the differential effects of extending the time period of analysis may not be critical in determining the allocation of emergency help enabling families to eat or pay rent, they may be of great importance in providing funds for programs directed at offsetting the effects of persistent poverty, such as compensating for an inadequate home environment through extra help in school.

2. Food stamps have a substantial effect on the incidence of poverty among school-aged children, enabling 15.7 percent of the children who were poor after other adjustments were made to family money income to move above the poverty line. This is especially important in regard to the allocation of Title I program funds, which are specifically aimed at this group.

3. In determining the rank order in the economic status of families, Federal taxes have little effect, despite the progressive nature of the individual income tax. Subtracting Federal taxes from family money income results in a slight increase in the incidence of poverty, with the effect being uniformly distributed across various demographic groups.

4. Adding asset income in the form of imputed rental income to home owners significantly improves the economic position of the elderly. However, some care must be taken in interpreting this result. Many of the elderly are overhoused, and the large imputed rental income does not help buy food or medical care which may be needed immediately.

5. A brief examination of subnational areas produced inconclusive results. Further research is needed to indicate whether the use of different measures of poverty would have much effect on the relative numbers of poor in small geographic areas.

INTRODUCTION AND SUMMARY OF RESULTS

INTRODUCTION

When considering the allocation of funds to geographical areas, or the improvement of eligibility rules for income maintenance or other subsidized programs, or even the assessment of trends in economic well-being for subgroups or subareas, it is appropriate to reexamine periodically the definition and measurement of poverty. Even if it is impossible to use the most precise or sophisticated definition in practice, it is useful to know how well the simpler and more available measures relate to the more expanded measures one might consider.

The congruence among various measures can be assessed in several ways. First, one can look at the simple correlations between the measures for individuals and for families. These correlations will show how well one can predict the level of economic well-being (or whether in poverty) of an individual or family for one measure if one knows the level (or whether in poverty) for some other measure. A second way is to see whether the relationship between poverty and other variables, particularly those reflecting policy options or easily ascertainable demographic characteristics such as age, sex, and race, depends on how poverty is defined. Third, one can test the sensitivity for different geographic areas, of models that use information concerning the proportion of the same subgroup classified as poor by another definition. If various poverty definitions apply differently across demographic groups, and geographic areas vary widely in demographic composition, subarea estimates of the number of poor might be badly distorted by using an inadequate definition of poverty.

DEFINITION OF POVERTY

When the Federal government first began in 1964 to organize a concerted attack on poverty in the United States, the official poverty threshold was established as total annual money income below $3000 for a family and below $1500 for unrelated individuals. It has been argued that major improvements to this definition could come from: 1) relating income to an estimate of need based more fully on family size and age-sex composition, 2) adding nonmoney components of income to money income, and subtracting certain costs of receiving income, and 3) lengthening the time period over which income is measured to longer than one year. In 1965 the Bureau of Census began to publish data based on an improved poverty definition which related income to an estimate of need based on family size and age-sex composition.

PROCEDURE

This study analyzes the effect of incorporating other adjustments to the measure of income used to determine the economic status and the incidence of poverty of both families and school-aged children. Certain nonmoney components of income, such as the amount saved on food stamps and

the imputed rent enjoyed by home owners, are added to family money income, while certain costs of earning income, namely the amount of Federal individual income taxes and Social Security taxes, are subtracted. The measures are then calculated for the one-year period 1971 and for the five-year period 1967-1971 in order to discover what differences result from lengthening the time horizon.

RESULTS

The results provide some interesting insights. On an annual basis, there is an extremely high correlation between the different definitions of income across the entire population of families and of school-aged children. Families and children who are relatively better off when family money income is used as the income measure are also relatively better off when adjustments are made to money income to arrive at an improved estimate of economic well-being. Conversely, families which are relatively worse off by the most basic definition are also relatively worse off when an expanded measure is used, with the exception of elderly families which generally have large amounts of inputed rent as a result of owning their homes. As would be expected, given the high correlations between alternative definitions, demographic characteristics exhibit the same degree of association with the various measures, with the educational level of the head of the family having the strongest association.

Adjustments to the income measure are much more important to an analysis of the incidence of poverty than to an analysis of income levels. The most notable change is that many fewer families and school-aged children are in poverty after the adjustments are made. Poor people are still relatively worse off compared to other families after adjusting money income, but the position of many is improved enough to move them over the unchanging poverty threshold. Thus, approximately 29 percent of all families and school-aged children who were in poverty in 1971 according to the official poverty definition were not in poverty under a broader definition of income, with food stamps having a significant effect on the status of children. It was also found that when school-aged children were analyzed, the incidence of poverty was greater for all income measures, indicating that poverty is a more pervasive phenomenon among individuals than among families. Families with more children are more likely to be poor, thus increasing the incidence of poverty among children. More importantly, families with large numbers of children are more likely to be black, and blacks are more likely to be poor. These two factors result in race being a much more powerful influence in determining the annual poverty status of school-aged children than of all families.

While the costs of receiving income and the nonmoney components of income can change a family's economic position, especially in moving it out of poverty, the effect of changing the measurement period is much more crucial. The correlations across all families and all children are still high between the annual measures and the five-year measures, but are lower than the correlations among the annual measures themselves. However, the principal effect of time shows up in assessing the incidence

of poverty. Overall, a longer time horizon reduces the incidence of poverty — by 17 percent for children and 19.3 percent for families. But these net figures hide even more substantial changes in the position of families and children. Thirty-four percent of the school-aged children who were poor by the official annual definition of poverty were not poor when family money income was averaged over five years. On the other hand, 20.4 percent of the children who were poor by the longer-run measures were not poor by the annual measure. These changes were not distributed evenly across all demographic groups. Children in black families and in families with poorly-educated heads, who were disproportionately poor by the annual measure, were even worse off when a five-year measure was used. These groups, if they were able to escape poverty, could do so only temporarily. On the other hand, white families and families with better educated heads, two groups which were relatively unaffected by poverty in the short run, were even better off in the long run. A longer time horizon also improved the situation of families with unmarried female heads, although this group was still disproportionately poor in both the short and long run. As a result of these differential effects of changing the measurement period, both race and education are more powerful determinants of long-run poverty than of short-run poverty, while sex-marital status is relatively less important.

As mentioned earlier, it is also of interest to determine if the relationship between the various measures of income found for the nation as a whole hold when smaller geographical areas are analyzed. One way to test this is to estimate the proportion poor under one definition of income from knowledge concerning the proportion poor under a different definition of income. In order for the results to differ, the alternative definition must make more difference to some demographic groups than to others, and the distributions of these groups must also vary widely from one area to another Given the complex and clustered nature of the sample initially and the skewed distribution by county resulting from geographical mobility over time, the smallest areas that were appropriate to analyze the relationship between the various measures were 16 subareas which combined region and size of largest city in the local area. The results are mixed. For the annual measures the estimates for the nation as a whole and for the 16 subareas did not differ to any degree. However, there is some indication that if a five-year measure of total family income were obtained, one could better estimate the proportion poor under a more comprehensive five-year measure for smaller geographical areas than for the nation as a whole. This could be a result of the power of the race variable in determining long-run poverty, combined with the fact that the distribution of black families is concentrated in large metropolitan areas and in the rural South.

THE SENSITIVITY OF THE INCIDENCE OF POVERTY AMONG SCHOOL-AGED CHILDREN TO DIFFERENT MEASURES OF INCOME

INTRODUCTION

In attempting to determine the extent of poverty among the population the definition of poverty is crucial. Such definitions consist of two parts — a definition of income and a definition of needs. In 1964 Mollie Orshansky of the Social Security Administration, with assistance from the Bureau of the Census, developed the definition of poverty which was adopted in 1969 by the Office of Management and Budget as the official Federal poverty measure. Total annual family money income was selected as the measure of income, and as a definition of needs a standard based on the "Economy Food Plan" developed by the Department of Agriculture was selected. (At 1975 midyear prices, an approximation of this standard would be $1800 plus $800 per person, or $5000 for a family of four.) Total annual family money income is the sum of all money income, including both public and private transfer income, received by all members of the family unit in a given year. If the measure is less than the minimum needs standard of the family for a given year, the family (and all individuals in the family) are classified as poor.

Both the income measure and the needs standard employed in the official Federal definition have been the subject of criticism. The needs standard has been criticized as being based on a diet which is not nutritionally adequate when followed regularly (and which requires an unrealistic degree of expertise in food management in order to meet minimum nutritional levels even if the requisite money is available) and from not adequately accounting for the differential impact of inflation across different sectors of the economy. The income measure is deficient, some say, because it fails to account for nonmoney income that certain families enjoy, such as rent-free housing provided as part of a job. A family with low money income may be able comfortably to meet its minimum needs if it does not have to pay for its housing, but may still be classified as poor by the official definition of poverty. On the other hand, the official income definition is a gross, rather than a net, measure as it fails to account for certain costs that individuals incur in receiving their money income, such as taxes, child care costs, and commuting costs. A family may earn an adequate amount of income to cover basic needs, but if a portion of that income must go to pay Federal, state, and local taxes, the family may not actually be able to meet those needs. The official definition, however, would not count the family as poor.

The annual measure of income used under the official definition has also been criticized as an inaccurate determinant of a family's "true" economic status. Over a person's lifetime he can expect to average a particular level of income each year. However, in any given year, the person's actual income may deviate quite substantially from his normal level of income. Part of these deviations can be accounted for by life-cycle effects on income. Young people, for example, may experience a low level

of annual income as they obtain their education or acquire experience on their jobs, but often can expect much higher income in the future. The reverse pattern in income levels is generally true for elderly people. In short, annual income is not sufficiently broad to differentiate among individuals situated at various stages of the life cycle. The deviations in the normal level of income can also be the result of pure random fluctuations in annual income because of temporary unemployment, illness, or extraordinary business losses or gains. In order to capture the life-cycle effects and the random fluctuations to arrive at an accurate determination of a family's normal economic status, the time horizon would have to be extended over a longer period than a single year.

While this is an interesting theoretical issue, its real importance arises in attempting to allocate funds for government programs aimed at helping the needy. What areas should be helped, which individuals should qualify? Clearly the answer depends on what kind of problem the program is aimed at alleviating. In allocating emergency help enabling families to eat and pay rent, a short-run measure of income would be more appropriate, but if the program is directed toward offsetting the effects of persistent poverty, for example by compensating for an inadequate home environment through extra help at school, a longer-run measure of income may be more suitable.

This study concentrates on the effect of incorporating some aspects of these various criticisms of the official income measure in determining the incidence of poverty among school-aged children. Three different measures of income were calculated. Income I was total family money income — a measure equivalent to that used by the Bureau of Census. Income II was then formed by subtracting from family money income one particular cost of earning income — Federal individual income taxes -- and adding on certain nonmoney components of income -- the value of free housing received either as part of a job or from friends or relatives, and the net imputed rent enjoyed by home owners. Another nonmoney component of income — the amount saved on food stamps by the family -- was then added to Income II to form Income III. These measures were all calculated for the one-year period 1971. Then, in order to analyze the effects of extending the time span over which income is measured, both Incomes I and III were averaged over the five-year period 1967-1971. To determine the economic status of the survey individuals, these five measures were related to a needs standard which was virtually equivalent to that used by the Bureau of Census. Those school-aged children in families with income less than needs for the different time periods were defined as in poverty under the various measures. Finally, to focus on the persistence of poverty among school-aged children, the years in which income was less than needs were counted, for both Income I and Income III. (For a detailed description of the needs standard and the different measures of income as well as a description of the other variables used in the analysis, see the Glossary.)

CORRELATIONS BETWEEN THE DIFFERENT MEASURES OF INCOME

The first question, then, is what difference do these various measures make in ascertaining the relative economic status of school-aged children? An overview is provided by the correlations between these different measures, as given in Table 1. As can be seen, the correlations between the various measures of annual income are quite high — greater than .98 for all definitions of income, indicating that better than 96 percent of the variance in one measure can be explained by differences in another measure. The correlation between five-year average Income I and five-year average Income III is likewise in excess of .98. The relationship between annual income and the annual income/needs ratio is not as strong as that between the annual measures of income, with the correlation coefficients dropping to between .85 and .89. This reinforces the officially-held position that income is not the sole determinant of economic well-being — family size is also crucial. The importance of time in determining economic status is indicated by the further drop in the coefficients when annual income is compared with the five-year measures of income/needs. In general, however, the high values of the correlation coefficients for Income I, Income II and Income III when measured alone, when related to needs, and when calculated for an annual or a five-year time period, indicate that few differences arise as a result of the different definitions of income in determining the relative economic status of the entire population of school-aged children. This conclusion is further confirmed by Tables 2-4 which give the distribution of school-aged children by these various measures. No significant differences are apparent when the different definitions of income are used. However, it is interesting to note from Tables 3 and 4 that average level of the Income III/Needs ratios are lower than the average level of the Income I/Needs ratios, implying that for school-aged children, the amount of Federal income taxes taken out of gross family money income exceeds the amount of nonmoney income, on the average. As will be seen, this result does not hold for families of school-aged children who are in poverty, reflecting the progressive nature of the Federal individual income tax.

INCOME AND FAMILY CHARACTERISTICS

What demographic characteristics are most important in explaining the different levels of these measures for school-aged children? Because some important demographic characteristics are interrelated, it is important (and often difficult) to separate the independent influence of each of the characteristics. For example, age of the head and the educational attainment of the head may both be important determinants of a family's relative economic status -- families with poorly educated heads and with elderly heads are both more likely to have a lower level of economic well-being. However, elderly heads tend to have less education, thus resulting in lower economic status, and age itself may be of little independent importance. The independent power (as indicated by Beta) of a selected set of demographic variables in explaining differences in the levels of these

various measures for families with school-aged children is shown in Table 5. (For an explanation of Beta , see the methodological note.) As can be seen, the educational level of the head is by far the dominant determinant, as might be expected given the powerful influence of education in the labor market. The effect of education is even more pronounced in the longer run measures than in the annual measures, indicating that even highly educated people may experience temporary slumps, and vice-versa. The race variable is particularly interesting. Its effect on one-year money income is extremely low; it is slightly more powerful in explaining differences in five-year average money income, but still ranks low in importance compared to the other demographic variables. However, when family size is taken into account in determining income/needs, the relative (and absolute) importance of race increases. This increase is especially marked when a five-year time perspective is taken. This is the result of a two-fold process. Black families have a higher number of school-aged children, on the average, than white families. Black families comprise 10.4 percent of the families (Table 16), but 15.2 percent of all school-aged children are in black families. White families, on the other hand, account for 86.9 percent of the families, but only 80.1 percent of the school-aged children. This average higher number of children would systematically give black families a higher need standard than white families. Moreover, black families with school-aged children have consistently lower incomes than white families. This shows up in the power of the race variable in explaining the number of years in poverty. It is the most powerful variable, even outranking education. These two factors result in race being a more powerful predictor of income/needs than of income, and a more powerful predictor of long-run measures than of annual measures.

THE INCIDENCE OF POVERTY

The discussion so far has examined the relationship of the different measures of income to the determination of the economic status of all school-aged children. Although a large degree of uniformity was found in employing the different definitions of income across the entire population of school-aged children, it is possible that significant differences occur at the lower end of the income distributrion which are being swamped by a great degree of similarity at the higher end of the income distribution. Because of this, it is important to analyze separately the effect of the different measures of income on the count and composition of school-aged children in poverty. And as shown by Table 6, the income measure does make a difference in determining whether a school-aged child is in poverty. Some children who are in poverty by one measure of income are not in poverty when another measure is used, as indicated by the correlation coefficients of less than 1.00 between the different measures of poverty. (A correlation coefficient of 1.00 would mean that all children who were in poverty by one definition would be in poverty by another definition, and all children who were not in poverty by one definition would not be in poverty by another definition.) This result is not surprising, especially when comparing the different annual measures of income. Adding

the amount saved on food stamps to family income, for example, should lift some children above the poverty line. The lower correlations between the annual measures and the five-year measures suggest that time may have a more significant effect on changing the poverty status of school-aged children than any of the adjustments to the annual measures of income.

These tentative conclusions can be examined in greater detail with the help of Table 7, which gives the unadjusted and adjusted proportions of school-aged children in poverty for different demographic groups and for different measures of income. The unadjusted proportions are the percent of children in the particular demographic group who were in poverty using a particular definition of income. The adjusted proportions isolate the influence of a particular demographic characteristic in order to give a better idea of the pure effect of that characteristic, a process similar to that described in attempting to determine what demographic characteristics were most important in explaining differences in the economic status of school-aged children. An illustration of how this adjustment works may be helpful. Table 7 shows that 39.6 percent of children in black families were in poverty using Income I as the income measure, and 46.8 percent of children in families with a head who had less than five grades of education were likewise in poverty. These two groups are undoubtedly interrelated — many black families are also poorly educated. The adjusted proportions account for this interrelationship and isolate the pure effect of the race variable by assuming that black families have the same distribution of educational attainment of the head as nonblack families, and then estimating the proportion of black school-aged children who would be in poverty even if the heads of black families had the same educational attainment as the heads of nonblack families. From this estimate, then, it can be concluded that the low education of the heads of black families is not the sole reason that black school-aged children suffer from a disproportionately high incidence of poverty -- some other factor (such as racial discrimination in the labor market, lower quality of education for the same years of schooling, etc.) is exerting a strong influence.

Several points are illustrated by Table 7 concerning the incidence of poverty among school-aged children. Under the most basic income measure — total family money income (Income I) -- 12.7 percent of all school-aged children were in families which were in poverty in 1971, with the incidence disproportionately high for children in black families, in families with an unmarried female head, and in families with a poorly educated or a disabled head. When Federal income taxes were subtracted from money income and certain nonmoney income components were added in to form Income II, the percent of children in poverty falls to 10.7 percent -- a 16 percent reduction. Thus, unlike the entire population of families with school-aged children, for families of children in poverty the amount of nonmoney income exceeds the amount of Federal individual income taxes (on the average), illustrating the progressive nature of the Federal income tax system. When another nonmoney component of income -- the net value of food stamps -- is added to Income II, the percent of school-aged

children in poverty falls by 15.7 percent, to 9.0 percent of all children. This beneficial effect of food stamps appears to be concentrated on those groups which have the highest incidence of poverty -- blacks, the poorly educated, the disabled, and the female-headed families.

When a five-year time perspective is taken, the overall incidence of poverty among school-aged children falls, both when Income I and Income III were used. However, this decrease is not evenly distributed across the various demographic groups. Children in black families and in families with a poorly educated head, two groups which were most heavily hit by poverty when measured on an annual basis, were even harder hit when the time horizon was lengthened. For example, 46.8 percent of the children in families headed by a person with less than five grades of education were in poverty when Income I was measured on an annual basis, while 52.7 percent were in poverty when Income I was measured on a five-year basis. On the other hand, 8.3 percent of the children in families headed by a person with twelve grades of education were poor when Income I was measured in 1971, but this figure fell to 5.9 percent when a five-year measure was used. The results are equally striking when the one-year and five-year figures for blacks and whites are compared. Looking at the one-year and five-year measures of Income I, the percent of black children in poverty fell somewhat less in terms of absolute percentage points (1.7, compared to 2.9 for whites) and much less in terms of percentage reduction (4.3 percent, compared to 38.2 percent for whites). These results are dramatically reinforced by Table 9, which shows the distribution of school-aged children by the number of years in poverty. With Income I as the income measure, over one-fifth of the black children (21.9 percent) were in poverty all five years, while only 1.3 percent of the white children were. Viewed in another light, only 38.4 percent of the black children were able to avoid poverty in each of the five years, while 85.4 percent of the white children were out of poverty in each of the five years.

While viewing poverty over a longer time period worsens the position of blacks and the poorly educated, it does improve somewhat the position of one group of children who were disproportionately poor on an annual basis — children in families with an unmarried female head, the proportion poor under Income I falling from .347 on an annual basis to .286 on a five-year basis. This drop probably resulted from some of the unmarried female heads in 1971 being married at some time in the previous years, and thus having a higher income in those years. That higher income would be included in the five-year average income, thus improving the longer run position of children in these families relative to their annual position.

POVERTY AND FAMILY CHARACTERISTICS

In attempting to discover which family characteristics are most important in explaining why school-aged children are in poverty, the results discussed above are further strengthened, as seen in Table 10. On an annual basis, race and sex-marital status of the head of the family

stand out as the most powerful predictors of poverty for school-aged children, with education of the head also important. When a five-year measure of poverty is used, sex-marital status loses some of its relative and absolute power, while both race and education increase in explanatory power. In other words, race and education are more powerful variables in determining the long-run poverty status of school-aged children than they are in determining the short-run status, a result which follows from the discussion of the differential effects of lengthening the time period on the incidence of poverty among certain subgroups of the population. Primarily because of the increased power of these two variables, the overall power of all the variables is greater in explaining long-run poverty than short-run poverty, as seen by the higher R for the long-run measures. Referring back to Table 5, it can be seen that race and education are even more powerful in explaining the number of years in poverty for school-aged children, with race once again being the single most important factor.

From the above discussion two points emerge: 1) in determining the relative economic status of the entire population of school-aged children, few differences arise when different income measures are utilized; however, 2) when examining the incidence of poverty among school-aged children, substantial differences can occur when different definitions of income are used. This latter point can be seen directly from Table 11. This table gives the percent of children in poverty by one definition of income who were not in poverty by a different definition of income. For example, illustrating a point made earlier, 15.7 percent of the children who were poor when Income II was used as the income measure were not poor when food stamps were added to form Income III. The results for annual income measures compared with five-year income measures are particularly interesting, for they show a large amount of change in the poverty status of school-aged children. Of the 12.7 percent of the children who were in poverty by the most basic income measure -- annual Income I -- 47.5 percent were not in poverty by the broadest measure of income — five-year average Income III. This amounts to 6.0 percent of all school-aged children being differently classified as in poverty or not. But the change works both ways. Of the 8.5 percent of the children who were in poverty by the broadest measure, 21.2 percent (equal to 1.8 percent of all school-aged children) were not in poverty when annual Income I was used as the income measure. These classification differences illustrate the importance of selecting the appropriate definition of poverty in attempting to determine the incidence of poverty among school-aged children.

SUBNATIONAL AREAS

The above results indicate that across the national population of school-aged children some difficulties would arise in attempting to estimate the proportion of school-aged children in poverty by one definition of income if it were known what proportion were in poverty by another definition. Because the Bureau of Census gathers extensive data for only one of the income measures (Income I), it is important to attempt to

pinpoint the estimation problems in going to an expanded definition of income. It is possible that estimation problems stem primarily from differences across subnational areas. For instance, it is conceivable that if the proportion poor under Income I were known for each county in the United States, the proportion poor under another measure of income could more accurately be predicted than the results for the nation as a whole indicate. In an attempt to get some idea how likely this is, the sample of school-aged children was grouped into 16 subareas based on region of the country and the size of the largest city in the local area (generally, the county). The proportions of children in these subareas who were in poverty under the different measures of income were then correlated. The results are shown in Table 12, and a comparison with Table 6 provides mixed support for the idea that for subnational areas it may be possible to better estimate the proportions poor under broader measures than that employed by the Bureau of Census.

Although the figures in the two tables are not exactly comparable due to the downward bias introduced in Table 6 by the use of the 0-1 whether-in-poverty variable, it seems clear from the near equivalence of the correlations between the annual measures for the two tables that no accuracy is gained in predicting the proportion poor under alternative annual measures of poverty if one looks at subnational geographical areas rather than the nation as a whole. However, the longer run measure of Income I correlates very highly with the longer run measure of Income III for smaller geographical areas ($r = .983$). For subnational areas, more that the nation as a whole, the differences in income concepts are apparently factors that affect families with children in one year or another, but not so continuously that they reduce the correlations over longer periods. This holds out some hope that if information on the official measures were collected for subnational areas over a longer time period, the proportions poor under more expanded definitions of income could be more accurately estimated.

THE SENSITIVITY OF THE INCIDENCE OF POVERTY AMONG FAMILIES TO DIFFERENT MEASURES OF INCOME

INTRODUCTION

The previous section discussed the sensitivity of the relative economic status and the incidence of poverty of school-aged children. Families with no school-aged children were excluded fromn the analysis; the families not excluded were weighted by the number of school-aged children in the family. This section examines the sensitivity of the relative economic status and the incidence of poverty of all families, independent of the number of school-aged children in the family. In discussing the general findings, special attention will be given to significant similarities and differences from the results found for school-aged children.

Before beginning, the differences in income measures used in the family analysis and those used in the children analysis should be noted. Total family money income -- Income I -- was used in both analyses. In the family analysis, both Federal individual income taxes and Federal Social Security taxes were subtracted from Income I to form Income IV. There is no comparable income measure in the school-aged children analysis. To form Income V, the same nonmoney income components were added to Income IV as were included in Incomes II and III used in the children analysis. As a result, the only difference between Income III and Income V is that Social Security taxes were subtracted from Income V and not Income III. Because the results of the family analysis indicate that the effect of Social Security taxes is virtually uniform across the population, comparisons between the results for Income III in the school-aged children analysis and the results for Income V in the family analysis should isolate the effect of changing the unit of analysis. It should also be noted that the same time intervals and the same needs standard were used in both analyses.

CORRELATIONS BETWEEN THE DIFFERENT MEASURES OF INCOME

The first question, then, is what differences occur from using the different measures of income in determining the relative economic status of the survey families? The correlations between the different measures of annual income are extremely high, as shown in Table 13 -- the coefficients drop somewhat, but still remain quite high, when the annual income measures are correlated with the five-year measures -- ranging around .92. The different five-year measures are all highly correlated — .99 or above. When annual income is compared to an annual income/needs ratio the correlations drop noticeably -- to around .83. These lower coefficients indicate the importance of family size in determining the relative economic status of families -- families with the same money income can have widely differing income/needs ratios due to difference in family size. When annual income is related to five-year income/needs ratios, the correlations drop

even further. The relationship is stronger between annual income/needs and five-year income/needs, but the fact that the relative economic position of families can change greatly over time is still apparent. There appears to be little difference in whether Incomes I, IV, or V are used in forming either the annual income/needs measures or the five-year income/needs measures, for the correlations between these measures for a given time period are all very high -- .98 or greater. Thus, while it appears that family size and the income measurement period have substantial effects on the relative economic status of families, adjusting money income for certain costs of earning income and for certain nonmoney income components of income has little overall effect on the relative economic status of families.

A comparison between Table 1 and Table 13 will show whether any significant differences arise in these correlations if families are weighted by the number of school-aged children in the family. There appear to be none. The one-year and five-year income measures are somewhat more highly correlated with the one-year and five-year income/needs measures in the analysis of children than in the family analysis. This probably results from the decreased variance in family size due to the elimination of all families without school-aged children in the children analysis. The correlations between the different income and income/needs measures and the number of years in poverty measures are also slightly higher for families with school-aged children than for all families, indicating that the poverty status of families with school-aged children may be more stable than that of all families. Overall, however, the results are notably similar.

INCOME AND FAMILY CHARACTERISTICS

Another clue to the relation between the various measures of economic status is provided by the strength of association of the measures with various demographic variables, as shown in Tables 14 and 15. In general, there is a large degree of uniformity across the various measures of income, income/needs, and the number of years income is less than needs. The labor force status and education variables of both the head and the wife are the most important explanatory variables for virtually all of the measures. Since education and occupation are jointly the prime determinants of labor earnings, the major component of most families' income, the results are hardly surprising. These variables are less strongly associated with income/needs than with income alone, indicating that they are less influential in determining family size than the level of income. It should be noted that results for the variables relating to the wife should be interpreted with care, for they measure a combination of effects. For example, the apparent power of the wife's education in accounting for differences in all of the measures is a combination of the effects of education in the job market, of the selective mating patterns of the sexes and of the mere presence of a wife. One category for this variable is "no wife," and this captures both the effect of the lower incomes of female-headed families (partially due to the lower wages received by women workers) and

the effect of the generally lower incomes of families with no possibility of a second income earner.

Although there is an overall high level of uniformity across the various measures, there are some meaningful differences. Education of the head is more strongly associated with the longer-run measures than with the annual measures, indicating the importance of education in determining a family's normal economic status. Of perhaps greater interest are the different levels of association of the race variable with the different measures. Race has an extremely low association with annual income measures. Its relative explanatory power increases when annual income is adjusted for family size, and becomes even more powerful when the time span is lengthened, ranking just behind the education and labor force status variables. This would suggest that race plays a significant role in determining a family's long-run economic status. This point is further evidenced by the association between race and the number of years in poverty, indicating that race is highly associated with the persistence of poverty among families.

While these levels of association provide valuable information in determining what factors influence a family's relative economic status, they tend to incorporate the effects of more than one variable, thus making it difficult to ascertain the independent effect of a particular demographic variable, unencumbered by the influence of other variables. The explanatory power of a selected subset of variables, adjusted for the effects of other demographic factors, are presented in Table 18. In order to allow for comparability with the results found in the school-aged children analysis, the income measures used were those used in the analysis of children. As would be expectred from previous results, education of the head of the family is the dominant factor in explaining differences in all of the measures, both short-run and long-run, with the long-run explanatory power being somewhat greater. The sex-marital status of the head is crucial in determining the level of money income of the family, illustrating the effect of having a second income earner available in the family. But when income is adjusted for family size the relative importance of this variable decreases -- the significance of having a second income earner is probably neutralized to a degree as a result of these families being larger and, thus, having greater needs. Age of the head is a consistently powerful variable in explaining differences in the level of income and income/needs, demonstrating the life-cycle effects of both income and family size. However, age is the least important variable in explaining differences in the number of years in poverty. Apparently, when other factors such as education and disability are taken into account, poverty is likely to be equally persistent across all age groups. The changing power of the race variable is also of importance. Race is the least important variable in explaining differences in the level of income and income/needs, both in the short and long run. However, in explaining differences in the persistence of poverty, race becomes one of the most important explanatory variables. This would indicate that after taking other factors into account race may not be critical in determining the

level of the different measures, but it is crucial in determining the stability of those measures. A similar pattern of change in relative explanatory importance is exhibited by the disability variable.

Comparing the results in Table 18 with those presented in Table 5 provides some interesting insights into the differences in determining the economic status of school-aged childrten and the economic status of all families. While education of the head maintains its dominant position in explaining differences in all of the measures except the number of years in poverty, race is a much more dominant factor in explaining differences in the level of income/needs, especially five-year average income/needs, for families with school-aged children than for all families. What this says in effect is that while five-year income/needs ratios are roughly equally distributed across white and black families (after taking account of other factors) when all families are observed, when families without school-aged children are eliminated from the analysis and the remaining families are weighted by the number of school-aged children in the family, the distribution of income/needs ratios becomes much less evenly distributed across black and white families. This is probably the result of two factors: 1) a proportionately larger number of poor white families being eliminated from the analysis than poor black families (for example, older families, which are disproportionately poor, are also disproportionately white); and 2) larger families, which are both disproportionately poor and disproportionately black, being counted more heavily in the school-aged children analysis. This result is also indicated by a comparison of the population of the two racial groups in poverty in the two analyses (from Tables 7 and 20). When five-year average Income I is used as the income measure, 24.9 percent of all black families are in poverty, while 37.9 percent of black school-aged children were in poverty. Conversely, 5.0 percent of all white families were in poverty, while only 4.7 percent of white school-aged children were in poverty.

Another important difference between the results in Table 18 and those in Table 5 is the effect of the age variable. In explaining differences in income/needs ratios for all families, age is the second most powerful variable. However, it is the least powerful variable in explaining differences in income/needs ratios for families with school-aged children. This result is easily understandable. In the school-aged children analysis the life-cycle effects of family size have been virtually eliminated by the exclusion of most elderly families, and along with it the life-cycle effect of income.

THE INCIDENCE OF POVERTY

Thus far attention has been focused on determining the relative economic status of families across the whole range of values for the various measures. In general, a high degree of uniformity has been observed for the different measures of income and the different time periods. The issue now is whether the use of these different concepts results in any

significant differences in the incidence of poverty among the entire population and within different subgroups of the population. Table 20 provides the answer. Using the most basic income measure — total annual family money income (Income I) -- 8.8 percent of the survey families were in poverty in 1971. As expected, blacks, the elderly, unmarried females, the uneducated, and the disabled were especially disadvantaged. When Federal taxes were subtracted from money income (Income IV), the proportion of families poor increased to 9.2 percent, an increase that appears to be uniformly distributed across all subgroups of the population. When nonmoney income components were added to money income, the effect of subtracting Federal taxes was swamped. The overall incidence of poverty fell to 6.3 percent. Virtually all subgroups of the population shared in this reduction, with elderly families experiencing a marked decrease in poverty, due primarily to their generally large amounts of imputed rent from their mostly mortgage-free homes. (The same result can be seen for farmers, although some caution is required because of the small number of farm families in the sample. However, this result is reinforced by the reduction in the proportion of families in poverty which resided in counties in which the largest city had a population of less than 10,000.) The proportion of female-headed families falling into poverty is also significantly reduced when nonmoney components of income are included in the income measure, a result probably caused by two different effects: first, many female-headed families are older widows who have large amounts of imputed rent; second, many families with younger female heads often have children and, consequently, are more likely to receive substantial amounts of food stamps which could lift them above the poverty line.

Lengthening the time horizon also has a substantial effect on the overall incidence of poverty among the survey families. When five-year average money income is used instead of annual money income, the proportion of families in poverty decreases by 19.3 percent. The decrease is somewhat less (15.9 percent) when Income V is used as the income measure, indicating the greater stability of imputed rent as a component of income. When the most basic income measure (annual Income I) is compared to the most comprehensive income measure (five-year average Income V), the results are dramatic — the overall incidence of poverty was reduced by a full 40 percent.

It was observed in the school-aged children analysis that certain subgroups of the population (namely blacks and the poorly educated) who suffered a high incidence of poverty when measured on an annual basis were actually in a relatively worse position when the time period was lengthened. This result also appears in Table 20. For example, using Income V as the income measure, when the time horizon was extended, the percent of white families poor fell from 4.5 percent to 3.0 percent. For blacks, however, the percent actually increased -- from 20.4 percent to 23.0 percent. Thus, whites are not only less likely to be poor than blacks, but if poor are more likely to be only temporarily poor. Similar results occurred for families headed by individuals with less than five grades of education. (This group overlaps to a degree with black

families, thus some similarity is to be expected.) While race and education are no doubt important determinants of long-run poverty, it is possible that the increases in the proportions poor of these groups when the time span is lengthened is due somewhat to the recent expansion of the food stamp program. With the 1970 liberalization of the food stamp eligibility requirements, many poor families must have received larger amounts of food stamp benefits in 1971 than in the first three years of the five-year income measures. If the food stamp program had not been expanded, it is possible that as many of the black and the poorly educated families would have been poor in 1971 as over the entire five-year period. The fact that the proportion of black families in poverty did not increase in the long run when just money income was used lends some support to this explanation. However, for the poorly educated, the proportion poor increased when the time horizon was extended even when food stamps were not considered.

It is of interest to note that the incidence of poverty is higher among schoolaged children than among all families, as a comparison of Table 20 and Table 7 reveals. For example, 8.8 percent of all families were in poverty in 1971 under Income I, while 12.7 percent of all schoolaged children were in poverty under the same measure. This is a result of two factors. Families with more children are more likely to be in poverty as a consequence of their higher need standard. These can be seen from the figures in Table 20 for the variable "Number of Children Aged 0-17 in the Household." Furthermore, large families are disproportionately black, and black families as disproportionately poor.

POVERTY AND FAMILY CHARACTERISTICS

Earlier, demographic factors which were most important in explaining differences in the level of the various measures across all levels of the measures were examined. Are these factors equally important in determining whether a family is in poverty or not? The answer can be found by comparing Table 22 with Table 18. Education of the head remains the most powerful variable in explaining whether a family is in poverty on an annual basis, and is even more powerful in explaining long-run poverty. Age of head, which was relatively very powerful in explaining differences in the level of the various income/needs measures, is the least powerful variable in predicting whether a family is in poverty. As mentioned earlier, once other factors are taken into account, it appears that the incidence of poverty is evenly distributed across all age groups. This result is a bit puzzling, given the relatively high incidence of poverty among older families. A probable explanation is that the disability of the head variable is capturing much of the power of the age variable in explaining why families are in poverty, but not in explaining the level of the income/needs ratios. Once disabilities are taken into account, older people are more likely to have lower income/needs ratios than middle-aged people, but not so low as to fall into poverty. It is only when a disability is added to the age handicap that older families are likely to fall into poverty.

Thus it resulted that disability of the head is a relatively powerful predictor of poverty, but not of the level of the income/needs, while the reverse is true for age. A check of the age distribution of disabled heads adds further support to this possibility. Of the disabled heads, 44.7 percent were over the age of 64, while 48.9 percent of the heads over the age of 64 were disabled. (These figures illustrate the problems which arise when people are asked directly whether they are disabled. The question was meant to concentrate on disabilities which limited the labor force participation of the respondent. Thus disabilities of individuals over the age of 64 were meant for the most part to be excluded, for these people would generally not be active in the labor market, even if healthy. It appears that the question was less than successful in achieving this objective.

The results for the race and sex-marital status variables confirm earlier conclusions. While race is a relatively (and surprisingly) low predictor of annual poverty, its absolute and relative power increases when a five-year average income measure is used and when the number of years in poverty are counted. In short, race is strongly associated with the persistence of poverty. Sex-marital status, on the other hand, is a better predictor of annual poverty than longer-run poverty, indicating the importance of family composition change in the economic status of families over a period of time.

When these results for all families are compared to the results obtained in attempting to explain whether school-aged children are in poverty, the race variable again provides the most significant difference, as shown by a comparison of Table 22 with Table 10. Race alone is relatively unimportant in predicting whether families are in poverty on an annual basis, but it is of crucial importance in determining whether school-aged children are in poverty on an annual basis. And while race is an important explanatory variable of whether families are in poverty in the long run, its relative and absolute importance is even more significant in explaining whether school-aged children are in poverty. The results support earlier conclusions -- black families, which are disproportionately poor to begin with, have more school-aged children on the average than white families, thus resulting in an even disproportionately larger percentage of black children in poverty than white children.

The other point to note in comparing the results for school-aged children and the results for families is that the disability of head, an important explanatory variable for families, is not as powerful in predicting whether school-aged children are in poverty. This is due partially to the fact that disabled heads have fewer school-aged children on the average. If it is true that in the family analysis the disability variable is capturing to a large degree the effect of old age in predicting poverty, the difference in the explanatory power of the disability variable in the two analyses is even more understandable. There is little explanatory power of the age variable to be captured by the disability variable in the school-aged children analysis, since few school-aged children are in elderly families.

DATA BASE AND SAMPLE SIZE

This study is based on data from the Survey Research Center's (SRC) Panel Study of Income Dynamics for the years 1968 to 1972. 1/ In 1968, 4,802 families, approximately one-third selected from low-income families interviewed for the Survey of Economic Opportunity and the remainder from a cross-section sample of families in the United States, were interviewed by SRC. Each year thereafter these families were reinterviewed, as well as splitoff families from the original 1968 families. In 1972 there were 5,060 families in the panel. Different weights were assigned to these families in order to make the panel as a whole a representative cross section of families in the United States.

For the school-aged children analysis (Tables 1-12), all children in the panel between the ages of 5-18 (inclusive) in the spring of 1972 were counted, resulting in a sample of 5,834 individuals. This definition of school-aged children differs somewhat from that employed by the Bureau of Census, which defines a school-aged child as between the ages of 5-17 (inclusive).

For the family analysis (Tables 13-22) only those families in 1972 which included a male head from 1968, a female head from 1968, or the wife of a male head in 1968 were counted. In effect, splitoff families formed by children leaving the original family were excluded from the analysis. This resulted in a sample size of 4,010 families. Because of this selective filtering, the sample for the family analysis is not a representative cross section of the entire population, as it undercounts families with young heads.

GLOSSARY

AMOUNT SAVED ON FOOD AT WORK/SCHOOL: The value of free meals received at work or school, or the amount of savings if meals were obtained at reduced cost. This value is based on the response to a direct question asked during the interview. In 1968, the question was asked concerning only the value of food received at work.

AMOUNT SAVED ON FOOD STAMPS: The difference between the amount families paid for food stamps and the dollar value of food they could buy with the stamps.

CITY SIZE: The size of the largest city in the primary sampling unit in which the family resides. A primary sampling unit is generally an individual county; in more rural areas it includes a cluster of counties.

DISABILITIES:

A. DISABILITY OF HEAD: Whether the head reported a physical or nervous condition which limited the kind or amount of work he could do. This is in response to a direct question asked the respondents. In addition, in 1968 and 1972 the respondents were asked the additional question, "How much does it limit your work?" Respondents who replied that they had a disability, but whose answer to the second question indicated that it put no limitation on their work, were not considered to have a disability. These individuals composed 1.4 percent of the total sample in 1968 and 1.2 percent in 1972. Such a screening procedure was not available for 1969-1971.

In the school-aged children analysis, different figures are shown for the percentage of school-aged children in a family with a disabled head. In Tables 2 and 3, 14.8 percent of the children were shown to be in families with a disabled head. In Table 7 the figure was 11.5 percent. This resulted from coding priority in the computer set-up, which placed children who were in a family which had both the head and another (nonschool-aged child) family member disabled in the category "Other Family Member Disabled." The difference in the figures indicates the 3.3 percent of the children were in families which had both a disabled head and a disabled other member of the family.

B. OTHER FAMILY MEMBER DISABLED: Whether a nonschool-aged child member of the family other than head could not work or attend school or required extra care. This is in response to a direct question asked the head in 1972.

C. SCHOOL-AGED CHILD OUT OF SCHOOL BECAUSE OF DISABILITY: Whether a school-aged child could not attend school because of poor health. It is in response to a direct question asked the head in 1972. It does not include children who were institutionalized. As shown in Table 8, 0.3 percent of all school-aged children were in such a position. When priority coding was used to obtain the results for Table 7 and 10, no

children appeared in this category. This indicates that all the children so disabled were in families which had either a disabled head or another nonschool-aged child member of the family disabled.

D. SCHOOL-AGED CHILD REQUIRING EXTRA CARE BECAUSE OF DISABILITY: Whether a school-aged child required a lot of extra care because of poor health, but still was able to attend school. This is in response to a direct question asked the head in 1972. As shown in Table 8, 2.1 percent of all school-aged children required such care. When priority coding was used, only 1.4 percent of the children were classified in this category (Table 7), indicating that 0.7 percent of the children were disabled and were in a family with either a disabled head and/or a disabled other family member. other family member.

EDUCATION OF HEAD: The number of grades of school the head of the family unit finished. A direct question was asked during the interview. The "less than five grades" category includes respondents who answered between 0-5 grades and those who could not read or write or had trouble reading or writing. The "6 to 11 grades" category includes respondents who answered between 6-11 grades and those who didn't know, but mentioned that they could read or write. The "12 grades plus additional training" category includes respondents who replied 12 grades or finished high school and received additional non-academic training or went on to college but received no degree. The "not ascertained" category includes respondents who didn't know.

EDUCATION OF WIFE: The number of grades of school the wife of the head of the family unit finished. This was the response to a direct question asked of the head. The categories are the same as those for the education of head variable, except that the respondents who didn't know were included in the "no wife" category. This accounts for the difference in the percent of families with no wife reported under the "occupation of wife" variable and reported under the "education of wife" variable (32.5 percent compared to 33.2 percent).

FAMILY COMPOSITION CHANGE:

A. ONE-YEAR: The change in the head or wife of the household between 1971 and 1972. The "same head and wife" category includes those households which had no change in family members or who had a change in members other than head and/or wife. It includes those households with no wife in 1971 and no change in head in 1972. The "head same, but change in wife" category includes those households in which the head was the same in 1972 as in 1971, but either the wife had left or died or the head had a new wife. The "female who was head in 1971 still in household but new head" category includes those households which had a female head in 1971 who either married during the year or whose husband was institutionalized in 1971 and returned to the household (and thus became head) in 1972.

B. FIVE-YEAR: The change in the head or wife of the household between 1968 and 1972. The "same head and wife" category includes married couples in 1968

who remained together for the entire five years. The "same head, male, with no wife for entire five years" category includes male heads of the household who were single, widowed, divorced, or separated in 1968 and remained that way for the entire five years. The "same head, female, with no husband for entire five years" category includes female heads of the household who were single, widowed, divorced, or separated in 1968 and remained that way for the entire five years. The "single male head in 1968 who subsequently married" category includes male heads who were single, widowed, divorced, or separated in 1968 and who married in some year between 1969 and 1972. The vast majority of these were married to the same woman in 1972 -- 70 out of 73 for a count taken on the entire panel. The "married male head in 1968 whose wife left/died and male was single in 1972" category includes male heads who were together with their wives in 1968 and the wife left or died in the next five years and the male had not remarried by 1972. Those married male heads in 1968 who had remarried by 1972 composed the "married male head in 1968 whose wife left/died and male was married in 1972" category. "Female who had husband at any time during five years, head in 1972" category includes two distinct groups. One is females who were together with their husbands in 1968 and were subsequently separated from their husbands (either by death or for personal reasons) and were heads of the household in 1972. The other group is females who were either single, widowed, divorced, or separated in 1968, subsequently married, then separated from their husbands, and thus were heads of the household in 1972. The "female who was once head of household, still in household in 1972, but no longer head" category is also composed of two distinct groups. One is females who were heads in 1968 and subsequently married and remained married in 1972, or whose husbands returned to the household by 1972. The other is females who were married and living with their husbands in 1968, were subsequently separated from their husbands, and then remarried by 1972.

FAMILY FEDERAL INDIVIDUAL INCOME TAXES: The sum of the estimated Federal individual income taxes paid by the husband and wife and those paid by other members of the household. The estimates were based on taxable income and number of exemptions (taking acount of those over 65 or blind), using tables for single, married and head of household which incorporate the average deductions from Statistics of Income.

IMPUTED RENT TO HOME OWNERS: Estimated value of the return on equity for home owners. This estimate equalled six percent of net equity in owned homes. Net equity was estimated by subtracting from the value of the house the remaining mortgage principal.

INCOME I: Total family money income. Essentially, this is the sum of labor money income, asset money income and transfer money income, both public and private, for all family members. This is virtually equivalent to the Census Bureau's definition of income.

INCOME II: Total family money income (Income I) minus Federal individual income taxes plus 1) imputed rent to home owners, 2) rent value of free housing, and 3) amount saved on food at work/school.

INCOME III: Income II plus the amount saved on food stamps.

INCOME IV: Total family money income (Income I) minus Federal individual income taxes and Social Security taxes.

INCOME V: Income IV plus 1) imputed rental income to home owners, 2) rent value of free housing, 3) amount saved on food stamps, and 4) amount saved on food at work/school. Income V and Income III are identical except for the fact that Social Security taxes have been subtracted from Income V and not from Income III.

INCOME/NEEDS RATIO: The relevant income measure divided by the needs standard. For the five-year measures, five-year average income was divided by five-year average needs.

LABOR FORCE STATUS AND OCCUPATION OF HEAD: The categories are mostly self-explanatory. However, the occupations listed include heads who were actually working in 1972 and those who were temporarily laid off. As a result, the "unemployed" category does not include those were were temporarily laid off, but rather other unemployed heads who were looking for a new job. The "miscellaneous" category includes, among others, heads who were in the armed forces.

NEEDS STANDARD: An estimate of the amount of income needed in order for a family to escape poverty, as defined by the official poverty definition. It is based on the economy food budget developed by the Department of Agriculture. (This is equal to .8 of the low-cost food budget, which was used as the basis for creating the SRC needs standard variable.) In effect, it takes into account differences in family size and the age-sex composition of the family unit. It has been adjusted upward annually to take account of inflation. In addition, the needs standard for farmers has been set at 85 percent of the standard for non-farmers, the equivalence figure used by the Census Bureau. With these adjustments, the needs standard used in this study, and the resultant poverty threshold levels, should be a very close approximation to the poverty threshold levels employed by the Census Bureau.

OCCUPATION OF WIFE: The occupational categories used for the "labor force status and occupation of head" variable have been collapsed for the "occupation of wife" variable, due to the small number of observations available for some of the occupational categories. The "skilled white collar" category includes professional and technical workers, managers and officials, and self-employed businesswomen. The "skilled blue collar" category includes craftsmen, foremen, and operatives. The "unskilled blue collar" category includes unskilled laborers, service workers, and farmers, as well as the miscellaneous group.

REGIONAL-URBAN AREA: This is a variable which combines the four regions of the nation (Northeast, North Central, South, and West) with four ranges of the size of the largest city in the county where the family resides (500,000 or more, 100,000-499,999, 25,000-99,999, and 24,999 or less). The result is 16 geographical subareas in which families and children reside.

RENT VALUE OF FREE HOUSING: The rental value of free housing supplied either by friends or relatives or as part of a job. This figure was obtained primarily from the answer to a direct question, "How much would it rent for if it were rented?"

SCHOOL-AGED CHILDREN: A school-aged child in 1971 was defined as between the ages of 5 and 18 in the spring of 1972. This differs slightly from the Bureau of Census' definition of school-aged children for a particular year, which is a child between the ages of 5 and 17 in the spring of the following year.

SEX-MARITAL STATUS OF HEAD: The composite variable was created in an attempt to isolate some of the interdependent effects of the "sex of head" variable and the "marital status of head" variable. The "unmarried female" category includes female heads who were single, widowed, divorced, or separated in 1972. The "unmarried male" category includes male heads who were single, widowed, divorced, or separated in 1972. The remaining families composed the "married couple" category.

SOCIAL SECURITY TAXES: An estimate of the amount of Social Security taxes paid by all family members. Four separate tax payments were estimated for each year — for non-self-employed heads, self-employed heads, wives, and other income earners. For non-self-employed heads, the amount of Social Security taxes paid each year was estimated by multiplying the appropriate yearly tax rate by the variable "head's total labor income," and setting the appropriate ceiling on the amount of the tax. For self-employed heads an estimate of the Social Security tax base (net business income) was required, since the capital and labor components of income to the head from his own business are separated in the panel data. This estimate was made by subtracting from the taxable income of head and wife the wife's labor income, the head's income from rent, interest and dividends, and the wife's income from assets. To this base the appropriate tax rate (and ceiling) for self-employed persons was applied. In estimating the tax paid by wives, the assumption was made that all wives were not self-employed. The appropriate tax rate (and ceiling) was then applied to the variable "wife's money income from work." For other income receivers in the family unit, all were assumed to be not self-employed. Because no distinction was made in the data between the taxable labor income and the taxable asset income of other income receivers, the entire taxable income of others in the family unit was assumed to be subject to the Social Security tax. As a result, the amount of Social Security taxes paid by others in the family unit was estimated by applying the appropriate tax rate for non-self-employed persons to the variable "taxable income of others in family unit." Furthermore, the maximum amount of taxes paid by others was assumed to be the maximum amount paid by one person in a year.

METHODOLOGICAL NOTE

REGRESSION WITH CATEGORICAL PREDICTORS

A major goal of the social scientist is the explanation of individual variations in socioeconomic condition. Statistically, the explanation takes the form of estimating the portion of the original variation in a dependent variable which can be attributed to the variation of an explanatory or predictor variable. For example, if we are interested in the variation of wages, we might suppose that part of this variation is associated with variation in the job experience of the wage earner. If, for a particular sample, the original variance in wages was ten, and the variance remaining after taking account of the variation in experience (by least-squares regression) were eight, the percentage of the variation explained by experience is 20 percent (10-8)/10 x 100.

The particular name applied to this fraction depends on the nature of the predictor variable and on the complexity of the analysis. In the example above, the 20 percent would be termed "R-squared" because the explanatory variable was continuous and the analysis was simple. If we had used race, a categorical variable, instead of job experience and found (via analysis of variance) that the variance of wage was reduced from ten to seven, the Eta-squared of race in explaining wage would be 30 percent. The major reason for distinguishing between R-squared and Eta-squared is not that their interpretations differ, but rather that the statistical techniques used to estimate them differ.

When more complex analysis is performed, the need for additional measures of explanatory power arises. Suppose in the above analysis that we wished to use not only race as an explanatory variable of wage, but also the variable of whether or not the wage earner finished high school. If we computed the Eta-squared for each of these variables, we might find that the race variable accounted for 30 percent of the variation in wages, and high school completion accounted for 20 percent. The total portion of the variance explained by our multivariate analysis, however, would <u>not</u> be 50 percent, but something less, perhaps only 40 percent. The reason for this is that race and the completion of high school are interrelated. Proportionately fewer blacks finish school than whites. Hence, the variance explained by race and high school education overlap, and the whole is less than the sum of the parts. The Eta-squared for race incorporates both the explanatory power of race and some of the power of education. In order to determine the unique power of race in explaining the variation in wages, we need a statistic which adjusts for the interrelation of race and education. Beta-squared is such a statistic. It measures the ex-explanatory power of a predictor after the effects of all other included predictors which are related with it are taken into account. If a predictor were not related to any other predictor included in the analysis, then its Beta-squared would equal its Eta-squared.

The analogue to Beta-squared when continuous variables are employed is the "normalized regression coefficient," or

$$b_o = \frac{x}{o}$$

the number of standard units that y changes when x is changed by one standard deviation. Both beta measures are approximations of what is generally regarded as the true marginal effect of a predictor, namely its partial R-squared with the dependent variable. The two will be identical when the correlation of the dependent variable with the other predictors is as high as the correlation of the predictor in question with the other predictors. If the latter is large, beta will exaggerate the marginal power of the predictor.

For interpreting the results of categorical-predictor multiple regression (sometimes called dummy-variable regression), all the reader needs to remember is that Eta-squared measures the explanatory power of a single classification set of subclasses, while Beta-squared measures the net power of that set in a multivariate context.

For those concerned with the loss of explanatory power in using a few categories or classes instead of a numerical predictor, it should be pointed out that even if the relationship were truly linear, the fraction of explanatory power still available using k classes instead of an infinite set of numbers is only (1- 2). With five subgroups of roughly equal size, one still has 96 percent as much potential explanatory power and with seven groups, 98 percent. In addition, if the relationship is nonlinear, one usually explains and learns more with categorical predictors. 2/

Where the dependent variable is a dichotomy -- poor or not poor — then the use of ordinary multiple regression is in potential trouble from heteroscedasticity which may make significance tests nonconservative, and from possible predictions beyond the range of 0-1. With porportions that are not extreme (near to zero of 100 percent) and with substantial sample sizes, however, neither of these is a major problem and the use of probit or logit analysis is unnecessary.

In any case, the usual tests of significance are not only not crucial in this analysis, but run into difficulty because the usual stratification and clustering of the sample are doubly compounded by differential sampling fractions (oversampling the poor) and by analysis of individual children of school age who are clustered in families. The "design effect" departures of sampling variances from simple random, can be substantial. Fortunately, with substantial samples almost anything large enough to be relevant for public policy is also likely to be statistically significant.

FOOTNOTES TO TECHNICAL PAPER XVII

1. This study is documented in Morgan, James N., A Pannel Study of Income Dynamics; Study Design, Procedures, Available Data, 1968-1972. 2 Vols., Ann Arbor: Institute for Social Research, The University of Michigan, 1972.

2. For further discussion, see Aigner, Goldberger, and Kalton, "On the Explanatory Power of Dummy Variable Regression," International Economic Review, Vol. 16, No. 2, June 1975.

Table 1. Correlation Coefficients of Various Measures of Income and Poverty For All School-Aged Children

Measure of Income and Poverty	1971 Income I	1971 Income II	1971 Income III	5-Year Average Income I	5-Year Average Income III	1971 Income I/ Needs	1971 Income II/ Needs	1971 Income III/ Needs	5-Year Average Income I/ Needs	5-Year Average Income III/ Needs	Number of Years Income I Less than Needs	Number of Years Income III Less than Needs
1971 Income I	--	.983	.983	.908	.902	.892	.866	.866	.796	.777	-.412	-.384
1971 Income II		--	.999	.889	.910	.855	.858	.856	.764	.765	-.443	-.415
1971 Income III			--	.888	.909	.852	.853	.853	.760	.760	-.424	-.398
5-Year Average Income I				--	.986	.823	.801	.800	.889	.864	-.445	-.419
5-Year Average Income III					--	.797	.796	.794	.857	.854	-.464	-.440
1971 Income I/Needs						--	.985	.986	.911	.902	-.439	-.413
1971 Income II/Needs							--	1.000	.904	.916	-.481	-.456
1971 Income III/Needs								--	.904	.915	-.470	-.446
5-Year Average Income I/Needs									--	.990	-.482	-.456
5-Year Average Income III/Needs										--	-.514	-.490
Number of Years Income I Less than Needs											--	.958
Number of Years Income III Less than Needs												--

Table 2. Distribution of School-Aged Children by 1971 Income I and Five-Year Average Income I, by Selected Demographic Groups

Demographic Group	Percentage of All School-Aged Children	Unadjusted Mean	Adjusted* Mean	0-2499	2500-4999	5000-7499	7500-9999	10,000-12,499	12,500-14,999	15,000 Or More	Total
TOTAL POPULATION	100.0%										
1971 Income I		$13,677	--	1.9	9.5	12.0	14.0	14.4	12.6	35.6	100.0%
Average Income I		12,911	--	1.1	8.1	12.6	17.6	17.9	12.1	30.5	100.0
Race of Head											
White	80.1										
1971 Income I		14,708	13,941	1.0	6.6	10.0	13.0	14.9	13.8	40.7	100.0
Average Income I		13,994	13,314	0.2	4.7	10.1	16.4	19.2	13.6	35.8	100.0
Black	15.2										
1971 Income I		8,455	12,005	6.4	25.1	20.1	18.8	10.2	6.9	12.6	100.0
Average Income I		7,731	10,854	6.1	26.0	23.8	18.2	11.6	6.7	7.5	100.0
Other	4.7										
1971 Income I		13,083	14,335	2.9	8.9	19.2	15.7	19.2	11.3	22.8	100.0
Average Income I		11,298	12,439	0.3	8.4	19.1	36.5	15.7	5.8	14.3	100.0
Age of Head											
Under 25	2.0										
1971 Income I		5,723	7,720	17.8	26.5	25.6	20.0	7.9	2.1	0.0	100.0
Average Income I		8,441	10,185	1.5	21.5	17.4	34.1	16.2	5.7	3.6	100.0
25-44	64.8										
1971 Income I		13,174	12,920	1.2	8.8	13.2	15.1	14.8	13.8	33.0	100.0
Average Income I		12,512	12,279	0.3	6.7	13.6	19.6	19.6	13.4	26.7	100.0
45-64	31.7										
1971 Income I		15,451	15,593	2.3	8.1	8.4	11.8	14.3	11.2	44.0	100.0
Average Income I		14,261	14,382	1.9	8.9	10.3	13.1	14.9	10.5	40.5	100.0
65 or More	1.4										
1971 Income I		8,381	13,227	4.8	49.9	16.6	5.9	3.4	4.8	14.7	100.0
Average Income I		7,392	12,125	17.2	37.4	16.6	6.0	3.4	0.0	19.4	100.0
Education of Head											
5 Grades or Less	5.8%										
1971 Income I		7,706	8,459	6.5	26.9	24.8	18.3	10.1	7.5	5.7	100.0%
Average Income I		6,821	8,015	7.9	35.4	25.6	18.2	3.9	2.1	6.9	100.0
6-11 Grades	35.2										
1971 Income I		10,631	11,230	3.2	14.6	14.7	20.2	17.7	10.1	19.5	100.0
Average Income I		9,995	10,529	1.6	12.5	17.5	25.2	20.6	8.2	14.5	100.0
12 Grades	20.3										
1971 Income I		12,731	13,077	0.9	9.0	13.1	12.5	14.3	17.7	32.5	100.0
Average Income I		12,092	12,322	0.4	5.6	11.4	18.4	22.1	17.5	24.6	100.0
12 Grades Plus Additional Training	22.6										
1971 Income I		15,541	15,063	0.8	2.4	10.0	10.8	15.0	15.8	45.3	100.0
Average Income I		14,788	14,261	0.0	1.5	8.9	13.6	18.2	19.7	38.1	100.0
College Degree or More	14.4										
1971 Income I		22,432	20,663	0.2	1.0	0.5	3.2	6.8	10.3	77.9	100.0
Average Income I		21,180	19,679	0.0	0.8	0.5	3.3	9.8	7.6	78.1	100.0
Not Ascertained	1.6										
1971 Income I		9,587	12,163	0.2	19.4	23.0	24.1	15.3	0.0	18.0	100.0
Average Income I		8,981	11,179	0.0	7.5	35.7	25.1	19.8	2.6	9.3	100.0
Sex-Marital Status											
Married Couple	83.0										
1971 Income I		14,977	14,593	1.0	5.4	8.5	13.5	16.4	14.0	41.2	100.0
Average Income I		13,953	13,586	0.6	4.4	9.6	17.1	19.7	13.5	35.0	100.0
Unmarried Female	15.5										
1971 Income I		7,181	9,072	6.1	31.0	31.0	15.3	3.8	5.5	7.4	100.0
Average Income I		7,635	9,445	3.9	27.6	28.5	19.9	7.4	4.8	8.0	100.0
Unmarried Male	1.5										
1971 Income I		8,886	10,581	7.2	19.0	8.8	28.2	13.0	12.0	11.8	100.0
Average Income I		9,820	11,345	0.0	12.6	15.4	22.5	22.3	13.7	13.6	100.0

Table 2. (Continued)

Demographic Group	Percentage of All School-Aged Children	Unadjusted Mean	Adjusted* Mean	0-2499	2500-4999	5000-7499	7500-9999	10,000-12,499	12,500-14,999	15,000 Or More	Total
Region											
Northeast	27.3%										
1971 Income I		15,198	—	0.9	6.1	10.9	13.0	14.3	13.5	41.3	100.0%
Average Income I		14,351	—	0.1	4.5	9.0	19.6	18.0	11.4	37.5	100.0
North Central	29.4										
1971 Income I		14,660	—	1.2	7.2	9.3	12.7	13.1	15.3	41.2	100.0
Average Income		13,835	—	0.1	4.7	10.5	15.3	18.9	16.1	34.4	100.0
South	26.5										
1971 Income I		11,359	—	4.2	15.6	15.1	18.5	13.6	9.9	23.1	100.0
Average Income I		10,626	—	3.8	16.3	17.9	21.0	13.5	7.4	20.2	100.0
West	16.8										
1971 Income I		13,142	—	1.1	9.7	13.7	10.7	17.9	10.9	35.9	100.0
Average Income I		12,563	—	0.1	7.3	14.1	13.2	22.7	14.0	28.7	100.0
Disability of Head											
No Disability	85.2										
1971 Income I		14,347	—	1.3	7.2	11.3	12.8	15.2	14.0	38.3	100.0
Average Income I		13,522	—	0.6	5.9	11.4	16.8	19.0	13.6	32.7	100.0
Disability	14.8										
1971 Income I		9,821	—	5.5	23.0	16.2	21.0	9.7	4.7	19.9	100.0
Average Income I		9,399	—	3.8	21.1	19.6	22.2	11.2	3.9	18.2	100.0

* Adjusted by Regression Using Categorical Predictors

Table 3. Distribution of School-Aged Children by 1971 Income/Needs Ratios For Different Definitions of Income and by Selected Demographic Groups

Demographic Groups	Percentage of All School-Age Children	Unadjusted Mean	Adjusted* Mean	1971 Income/Needs Ratio .00-.49	.50-.74	.75-.99	1.00-1.24	1.25-1.49	1.50-1.74	1.75-1.99	2.00 or More	TOTAL
TOTAL POPULATION	100.0%											
Income I		2.86	--	2.3	3.0	7.4	5.5	7.0	5.2	7.1	62.5	100.0%
Income II		2.70	--	1.4	3.3	5.9	6.3	7.3	6.0	7.8	61.9	100.0
Income III		2.72	--	0.8	2.7	5.5	7.4	7.5	6.0	8.1	62.1	100.0
Race of Head												
White	80.1											
Income I		3.12	2.98	1.0	1.0	5.6	3.9	6.1	5.1	7.1	70.3	100.0
Income II		2.95	2.83	0.6	1.0	3.6	5.0	6.4	5.6	7.9	69.9	100.0
Income III		2.96	2.84	0.5	0.7	3.2	5.6	6.3	5.5	8.2	70.0	100.0
Black	15.2											
Income I		1.63	2.29	9.2	13.2	14.5	11.2	11.5	5.1	7.1	28.3	100.0
Income II		1.58	2.14	5.5	15.4	14.7	11.7	11.0	7.5	7.0	27.3	100.0
Income III		1.63	2.18	2.1	13.1	15.0	15.2	12.1	7.8	6.5	28.2	100.0
Other	4.7											
Income I		2.41	2.65	2.1	3.9	15.8	14.9	6.9	7.9	8.3	40.4	100.0
Income II		2.11	2.33	1.8	2.9	17.0	9.5	12.6	9.4	9.8	36.9	100.0
Income III		2.13	2.34	1.8	2.5	14.0	11.9	13.6	9.4	9.8	36.9	100.0
Age of Head												
Under 25	2.0											
Income I		1.81	2.16	9.6	6.9	2.6	10.0	15.5	4.3	11.0	40.1	100.0
Income II		1.74	2.04	9.6	6.5	1.4	14.3	13.5	5.1	7.9	41.8	100.0
Income III		1.76	2.06	8.0	5.3	3.4	11.3	17.1	5.1	7.9	41.8	100.0
25-44	64.8											
Income I		2.81	2.75	1.6	2.2	7.7	5.1	7.9	5.6	7.4	62.4	100.0
Income II		2.65	2.59	1.1	2.5	6.3	5.6	8.3	6.2	7.8	62.3	100.0
Income III		2.67	2.61	0.7	1.7	5.4	7.1	8.3	6.2	8.0	62.6	100.0
45-64	31.7											
Income I		3.08	3.13	3.1	3.5	6.5	5.9	4.4	4.7	6.3	65.6	100.0
Income II		2.90	2.95	1.7	3.9	5.2	6.7	5.1	5.6	8.3	63.4	100.0
Income III		2.92	2.96	0.6	3.7	5.6	7.1	5.3	5.7	8.6	63.4	100.0

Table 3. (Continued)

Demographic Group	Percentage of All School-Age Children	Unadjusted Mean	Adjusted* Mean	1971 Income/Needs Ratio .00-.49	.50-.74	.75-.99	1.00-1.24	1.25-1.49	1.50-1.74	1.75-1.74	2.00 or More	TOTAL
Age of Head (cont'd)												
65 or More	1.4											
Income I		1.76	2.94	6.4	17.7	20.7	7.2	11.4	2.1	4.6	29.8	100.
Income II		1.81	2.87	0.0	24.1	13.4	14.6	4.6	8.9	0.0	34.5	100.
Income III		1.84	2.87	0.0	21.1	10.0	21.0	4.6	8.9	0.0	34.5	100.
Education of Head												
5 Grades or Less	5.8											
Income I		1.37	1.66	9.9	16.0	20.8	15.5	8.7	8.6	6.3	14.1	100.
Income II		1.37	1.67	7.1	16.7	18.8	14.8	13.0	10.7	5.6	13.2	100.
Income III		1.41	1.71	2.8	15.8	15.6	23.1	12.6	11.3	5.8	13.2	100.
6-11 Grades	35.2											
Income I		2.14	2.26	3.8	4.4	10.8	7.6	12.1	7.8	8.6	44.9	100.
Income II		2.07	2.19	2.3	5.4	8.6	8.7	11.7	10.5	9.5	43.4	100.
Income III		2.09	2.21	1.5	3.7	9.3	9.6	12.1	10.0	10.1	43.8	100.
12 Grades	20.3											
Income I		2.77	2.81	1.2	1.7	5.4	4.8	6.0	5.8	6.6	68.5	100.
Income II		2.66	2.69	0.5	1.8	4.9	4.7	6.3	5.5	7.7	68.6	100.
Income III		2.67	2.71	0.5	1.5	3.7	6.2	5.4	6.1	8.1	68.6	100.
12 Grades Plus Additional Training	22.6											
Income I		3.32	3.18	0.6	0.4	4.3	2.8	3.1	2.5	6.6	79.8	100.
Income II		3.14	3.00	0.5	0.4	2.1	4.2	4.2	1.5	7.6	79.6	100.
Income III		3.14	3.01	0.0	0.7	2.3	3.3	5.0	1.6	7.2	79.9	100.
College Degree, or More	14.4											
Income I		4.76	4.43	0.0	0.0	0.6	0.7	0.2	0.7	3.6	94.2	100.
Income II		4.28	3.98	0.0	0.0	0.0	1.0	0.5	1.4	3.1	94.0	100.
Income III		4.28	3.99	0.0	0.0	0.0	1.0	0.5	1.4	3.1	94.0	100.
Not Ascertained	1.6											
Income I		1.97	2.43	0.2	3.2	17.1	13.0	16.1	6.5	23.8	20.0	100.
Income II		1.89	2.30	0.2	0.7	18.5	17.3	10.7	5.1	27.5	20.0	100.
Income III		1.93	2.33	0.2	0.0	5.4	31.1	10.7	5.1	27.5	20.0	100.

Table 3. (Continued)

Demographic Group	Percentage of All School-Age Children	Unadjusted Mean	Adjusted* Mean	1971 Income/Needs Ratio .00-.49	.50-.74	.75-.99	1.00-1.24	1.25-1.49	1.50-1.74	1.75-1.74	2.00 or More	TOTAL
Sex-Marital Status												
Married Couple	83.0											
Income I		3.09	2.99	1.5	1.5	5.2	4.8	6.1	5.2	7.1	68.6	100.0
Income II		2.90	2.81	0.9	1.7	3.9	5.2	6.8	5.8	8.1	67.7	100.0
Income III		2.91	2.82	0.6	1.4	3.4	5.9	6.9	5.6	8.3	67.8	100.0
Unmarried Female	15.5											
Income I		1.73	2.19	6.2	10.6	17.9	9.4	12.3	5.5	7.3	30.8	100.0
Income II		1.72	2.13	4.0	11.6	16.0	11.5	10.8	7.5	6.7	32.0	100.0
Income III		1.77	2.17	1.4	8.8	16.0	14.9	10.8	8.8	6.7	32.6	100.0
Unmarried Male	1.5											
Income I		2.20	2.62	6.7	7.5	23.2	3.5	2.5	1.9	5.1	49.6	100.0
Income II		2.20	2.54	5.7	7.4	14.6	13.0	2.7	1.9	5.7	49.0	100.0
Income III		2.23	2.56	2.5	8.9	16.3	12.0	3.7	1.7	5.7	49.2	100.0
Region												
Northeast	27.3											
Income I		3.09	--	0.7	1.3	6.3	4.6	9.8	4.5	5.2	67.6	100.0
Income II		2.93	--	0.7	1.3	5.3	5.3	8.7	6.0	5.8	67.0	100.0
Income II		2.94	--	0.5	1.1	5.1	5.3	8.5	5.9	6.7	67.0	100.0
North Central	29.4											
Income I		3.01	--	1.0	1.5	7.0	3.6	5.4	6.8	7.7	67.0	100.0
Income II		2.83	--	1.0	1.0	3.8	6.5	5.5	5.9	9.7	66.6	100.0
Income III		2.85	--	0.8	0.8	3.2	6.7	6.1	5.9	9.4	67.0	100.0
South	26.5											
Income I		2.47	--	6.2	7.1	6.8	8.1	7.4	5.6	7.9	50.9	100.0
Income II		2.34	--	3.0	9.4	6.8	7.0	9.3	7.4	6.5	50.6	100.0
Income III		2.36	--	1.2	7.6	7.7	9.5	9.1	7.4	6.8	50.6	100.0
West	16.8											
Income I		2.85	--	0.9	1.7	10.9	6.3	4.4	3.1	7.9	64.7	100.0
Income II		2.69	--	0.9	1.0	9.3	6.4	5.4	4.1	10.1	62.9	100.0
Income III		2.71	--	0.6	0.7	7.0	8.5	5.7	4.4	9.8	63.3	100.0
Disability of Head												
No Disability	85.2											
Income I		3.02	--	1.5	1.8	5.6	4.8	6.5	5.3	7.4	67.0	100.0
Income II		2.84	--	0.9	2.1	4.3	5.3	7.0	5.9	8.5	66.1	100.0
Income III		2.85	--	0.6	1.7	4.1	6.0	6.9	5.9	8.6	66.3	100.0
Disability	14.8											
Income I		1.96	--	7.1	9.6	17.9	9.3	9.5	4.5	5.7	36.3	100.0
Income II		1.93	--	4.7	10.4	15.5	11.6	9.3	6.8	4.0	37.7	100.0
Income III		1.97	--	1.9	8.6	13.7	15.5	11.0	6.9	4.7	37.7	100.0

*Adjusted by Regression Using Categorical Predictors

Table 4. Distribution of School-Aged Children by Five-Year Average Income/Needs Ratios (For Incomes I and III), by Selected Demographic Groups

Demographic Group	Percentage of All School-Age Children	Unadjusted Mean	Adjusted* Mean	Five-Year Average Income/Five-Year Average Needs Ratio .00-.49	.50-.74	.75-.99	1.00-1.24	1.25-1.49	1.50-1.74	1.75-1.74	2.00 or More	TOTAL
TOTAL POPULATION	100.0%											
Income I		2.76	—	1.6	2.6	6.2	6.2	6.2	7.4	8.0	61.8	100.0%
Income III		2.61	—	0.7	2.5	5.2	6.9	7.9	7.2	9.2	60.4	100.0
Race of Head												
White	80.1											
Income I		3.03	2.90	0.1	1.1	3.5	3.9	5.4	7.4	8.4	70.2	100.0
Income III		2.86	2.74	0.0	0.6	2.4	4.6	6.7	7.1	9.9	68.7	100.0
Black	15.2											
Income I		1.53	2.16	10.1	11.2	16.5	13.8	10.1	5.9	5.8	26.5	100.0
Income III		1.51	2.04	4.8	12.7	17.2	14.0	13.7	6.4	6.6	24.7	100.0
Other	4.7											
Income I		2.12	2.32	0.0	1.3	18.4	19.9	6.5	11.8	8.5	33.6	100.0
Income III		1.93	2.11	0.0	1.3	15.6	22.5	10.0	10.5	6.7	33.4	100.0
Age of Head												
Under 25	2.0											
Income I		2.00	2.32	2.5	5.1	5.3	7.9	14.0	16.6	7.0	41.6	100.0
Income III		1.93	2.21	0.5	4.8	5.5	10.8	16.4	11.0	8.1	43.0	100.0
25-44	64.8											
Income I		2.78	2.72	0.9	1.6	5.5	6.3	6.6	7.8	7.4	64.0	100.0
Income III		2.61	2.56	0.2	1.3	4.9	6.3	8.7	7.5	8.8	62.3	100.0
45-64	31.7											
Income I		2.82	2.87	2.4	4.0	7.8	5.4	4.7	6.4	9.2	60.1	100.0
Income III		2.68	2.72	1.2	4.2	5.8	7.4	5.5	6.6	10.4	58.9	100.0
65 or More	1.4											
Income I		1.57	2.70	19.0	15.9	5.7	13.6	11.3	0.1	8.6	25.8	100.0
Income III		1.63	2.64	12.6	14.9	7.9	12.0	13.4	2.5	7.7	28.9	100.0
Education of Head												
5 Grades or Less	5.8											
Income I		1.22	1.63	9.5	19.3	23.9	20.4	4.7	5.0	5.3	11.9	100.0%
Income III		1.25	1.63	5.4	19.6	22.1	24.5	6.8	5.2	4.6	11.8	100.0
6-11 Grades	35.2											
Income I		2.03	2.16	2.9	3.7	8.2	9.2	11.6	13.1	10.6	40.8	100.0
Income III		1.97	2.09	1.2	3.4	6.9	10.6	14.6	12.4	11.8	39.2	100.0
12 Grades	20.3											
Income I		2.71	2.73	0.3	0.8	4.8	3.3	5.1	8.3	7.3	70.1	100.0
Income III		2.59	2.60	0.0	0.6	3.5	3.8	6.1	8.3	8.3	69.3	100.0
12 Grades Plus Additional Training	22.6											
Income I		3.27	3.10	0.0	0.1	2.5	3.0	3.0	2.9	7.7	80.7	100.0
Income III		3.06	2.91	0.0	0.1	2.3	2.9	3.3	3.0	9.6	78.7	100.0
College Degree, or More	14.4											
Income I		4.56	4.28	0.0	0.0	0.0	1.0	0.0	0.3	2.5	96.1	100.0
Income III		4.11	3.86	0.0	0.0	0.0	1.0	0.0	0.3	3.9	94.7	100.0
Not Ascertained	1.6											
Income I		1.90	2.31	0.0	0.9	22.6	15.3	6.9	7.7	21.4	25.1	100.0
Income III		1.84	2.21	0.0	0.2	19.4	8.7	22.3	6.2	22.6	20.5	100.0
Sex-Marital Status												
Married Couple	83.0											
Income I		2.95	2.86	1.1	1.5	4.3	4.8	5.5	7.4	7.7	67.7	100.0
Income III		2.77	2.69	0.5	1.6	3.3	5.3	7.3	7.0	8.9	66.0	100.0
Unmarried Female	15.5											
Income I		1.78	2.21	4.2	8.6	15.8	13.2	9.3	7.8	10.0	31.1	100.0
Income III		1.77	2.15	2.0	6.5	15.9	14.0	10.4	8.9	11.6	30.7	10
Unmarried Male	1.5											
Income I		2.38	2.83	5.0	5.2	13.9	5.8	13.1	2.1	2.5	52.5	100.0
Income III		2.31	2.67	1.4	8.5	1.0	18.0	14.0	2.2	2.6	52.3	100.0

Table 4. (Continued)

Demographic Group	Percentage of All School-Age Children	Unadjusted Mean	Adjusted* Mean	Five-Year Average Income/Five-Year Average Needs Ratio .00-.49	.50-.74	.75-.99	1.00-1.24	1.25-1.49	1.50-1.74	1.75-1.99	2.00 or More	TOTAL
Region												
Northeast	27.3											
Income I		2.99	—	0.0	0.3	5.9	6.0	6.7	7.0	7.1	67.1	100.0
Income III		2.83	--	0.0	0.2	4.1	7.3	8.0	6.6	8.0	65.7	100.0
North Central	29.4											
Income I		2.89	—	0.0	1.4	4.3	3.3	7.2	7.9	9.4	66.4	100.0
Income III		2.73	--	0.0	0.5	3.6	4.0	7.6	7.4	11.9	65.1	100.0
South	26.5											
Income I		2.36	—	6.2	7.7	6.2	9.6	5.7	7.9	7.3	49.4	100.0
Income III		2.23	--	2.8	8.5	6.9	8.6	9.7	7.4	8.9	47.2	100.0
West	16.8											
Income I		2.80	—	0.0	0.7	10.0	6.0	4.2	6.4	8.0	64.7	100.0
Income III		2.63	--	0.0	0.2	7.4	8.5	5.4	7.3	7.0	64.1	100.0
Number of Years Head Had Disability												
Zero	68.9											
Income I		3.06	—	0.7	1.1	3.0	3.8	4.6	7.2	8.8	70.7	100.0
Income III		2.86	--	0.4	0.9	2.8	4.1	5.8	6.8	10.5	68.8	100.0
One	11.4											
Income I		2.42	—	1.3	3.7	8.4	6.7	7.0	8.1	6.0	58.8	100.0
Income III		2.31	--	0.9	3.2	8.4	6.5	8.9	7.3	7.1	57.6	100.0
Two	6.5											
Income I		2.06	—	1.6	3.2	14.3	12.2	14.7	9.3	3.4	41.2	100.0
Income III		2.01	—	1.2	3.4	8.5	11.6	21.7	9.1	6.1	38.4	100.0
Three	4.3											
Income I		2.09	—	12.4	3.6	11.6	14.7	7.1	5.2	5.1	40.3	100.0
Income I		2.03	--	4.8	8.5	12.9	13.7	9.9	4.4	4.0	41.9	100.0
Four	4.3											
Income I		2.14	—	3.8	7.6	20.8	6.6	8.7	9.8	10.5	32.3	100.0
Income III		2.09	--	1.3	4.5	18.1	12.8	8.7	12.8	9.2	32.6	100.0
Five	4.6											
Income I		1.31	—	4.2	17.2	18.0	22.8	12.4	5.5	7.5	12.5	100.0
Income III		1.39	—	1.2	16.3	10.9	29.9	14.2	7.3	5.5	14.7	100.0

* Adjusted by Regression Using Categorical Predictors

Table 5. Adjusted Explanatory Power ($Beta^2$) of Selected Demographic Variables, For Different Measures of Income and Income/Needs (For Families Weighted by Number of School-Aged Children)

Demographic Variable	1971 Income I		Five-Year Average Income I		1971 Income I/ Needs		1971 Income II/ Needs		1971 Income III/Needs		Five-Year Average Income I/ Needs		Five-Year Average Income III/Needs		Number of Years Income I Less Than Needs		Number of Years Income III Less Than Needs	
	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank
Education of Head	.144	(1)	.174	(1)	.148	(1)	.153	(1)	.153	(1)	.178	(1)	.186	(1)	.072	(2)	.066	(2)
Race	.006	(6)	.013	(5)	.015	(4)	.025	(3)	.023	(3)	.025	(2)	.035	(2)	.085	(1)	.097	(1)
Sex-Marital Status of Head	.053	(2)	.038	(2)	.021	(3)	.023	(4)	.021	(4)	.017	(4)	.018	(4)	.058	(3)	.052	(3)
Region-City Size	.033	(3)	.034	(3)	.023	(2)	.027	(2)	.027	(2)	.023	(3)	.028	(3)	.033	(4)	.035	(4)
Family Disabilities	.011	(5)	.010	(6)	.014	(5)	.016	(5)	.015	(5)	.013	(5)	.014	(5)	.025	(5)	.019	(5)
Age of Head	.029	(4)	.018	(4)	.010	(6)	.014	(6)	.013	(6)	.003	(6)	.004	(6)	.002	(6)	.002	(6)
	R^2=.362		R^2=.384		R^2=.308		R^2=.345		R^2=.340		R^2=.351		R^2=.388		R^2=.428		R^2=.419	

Table 6. Correlation Coefficients of Different Standards of Poverty For All School-Aged Children

	1971 Income I Less Than Needs	1971 Income II Less Than Needs	1971 Income III Less Than Needs	Five-Year Average Income I Less Than Needs	Five-Year Average Income III Less Than Needs	Number of Years Income I Less Than Needs	Number of Years Income III Less Than Needs
1971 Income I Less Than Needs	--	.906	.824	.687	.604	.782	.718
1971 Income II Less Than Needs		--	.910	.642	.617	.736	.741
1971 Income III Less Than Needs			--	.583	.572	.673	.718
Five-Year Average Income I Less Than Needs				--	.876	.879	.854
Five-Year Average Income III Less Than Needs					--	.821	.853
Number of Years Income I Less Than Needs						--	.958
Number of Years Income III Less Than Needs							--

Table 7. Unadjusted and Adjusted Proportions of School-Aged Children in Poverty, by Selected Demographic Categories, for Different Definitions of Income

(Adjusted by Regression Using Categorical Predictors)

Demographic Category	Percentage of All School-Aged Children	1971 Income I Less Than Needs		1971 Income II Less Than Needs		1971 Income III Less Than Needs		Five-Year Average Income I Less Than Five-Year Average Needs		Five-Year Average Income III Less Than Five-Year Average Needs	
		Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
TOTAL	100.0%	.127	--	.107	--	.090	--	.105	--	.085	--
Race											
White	80.1	.076	.097	.053	.073	.044	.060	.047	.069	.030	.048
Black	15.2	.396	.269	.355	.262	.302	.226	.379	.285	.347	.269
Other	4.7	.218	.174	.218	.181	.183	.161	.197	.134	.168	.118
Age of Head											
Under 25	2.0	.191	.157	.174	.140	.167	.138	.130	.107	.108	.090
25-44	64.8	.116	.132	.098	.113	.078	.090	.079	.097	.064	.079
45-64	31.7	.131	.110	.108	.090	.099	.086	.142	.119	.113	.095
65 or More	1.4	.448	.224	.375	.151	.311	.127	.406	.127	.354	.101
Education of Head											
5 Grades or Less	5.8	.468	.364	.427	.319	.341	.242	.527	.400	.471	.354
6-11 Grades	35.2	.190	.155	.162	.127	.144	.113	.148	.110	.115	.081
12 Grades	20.3	.083	.087	.072	.079	.057	.066	.059	.069	.040	.048
12 Grades Plus Additional Training	22.6	.052	.091	.030	.069	.030	.065	.027	.073	.024	.067
College Degree, or More	14.4	.006	.081	.000	.072	.000	.060	.000	.071	.000	.063
Not Ascertained	1.6	.205	.098	.194	.093	.056	-.027	.235	.126	.197	.101
Sex-Marital Status											
Married Couple	83.0	.081	.092	.065	.076	.054	.067	.069	.080	.055	.065
Unmarried Female	15.5	.347	.296	.316	.263	.263	.221	.286	.232	.244	.196
Unmarried Male	1.5	.374	.302	.277	.218	.277	.234	.241	.163	.109	.047

Table 7. (Continued)

Demographic Category	Percentage of All School-Aged Children	1971 Income I Less Than Needs		1971 Income II Less Than Needs		1971 Income III Less Than Needs		Five-Year Average Income I Less Than Five-Year Average Needs		Five-Year Average Income II Less Than Five-Year Average Needs	
		Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
Family Disabilities[1]											
School-Age Child Requiring Extra Care	1.4	.037	.070	.037	.069	.035	.061	.019	.057	.014	.051
Head Disabled	11.5	.342	.279	.290	.235	.214	.165	.292	.223	.225	.167
Other Family Member Disabled	9.2	.228	.161	.208	.140	.195	.140	.229	.155	.172	.100
No Disabilities	78.0	.085	.101	.069	.084	.060	.073	.064	.082	.055	.071
Region-City Size											
Northeast, 500,000 or More	16.4	.074	.085	.057	.070	.054	.065	.045	.061	.025	.040
North Central, 500,000 or More	10.6	.076	.083	.050	.057	.036	.039	.063	.068	.055	.058
South, 500,000 or More	4.4	.181	.109	.175	.100	.145	.087	.147	.075	.126	.057
West, 500,000 or More	6.9	.134	.117	.134	.112	.091	.072	.094	.077	.043	.025
Northeast, 100,000-499,999	4.9	.087	.104	.087	.102	.087	.100	.173	.179	.159	.166
North Central, 100,000-499,999	7.4	.083	.108	.062	.085	.054	.071	.042	.066	.039	.061
South, 100,000-499,999	6.2	.130	.095	.116	.084	.111	.083	.121	.085	.106	.070
West, 100,000-499,999	4.0	.123	.096	.078	.048	.078	.052	.130	.103	.108	.085
Northeast, 25,000-99,999	4.5	.115	.158	.115	.160	.083	.117	.023	.078	.000	.056
North Central, 25,000-99,999	4.0	.044	.113	.044	.110	.044	.096	.020	.086	.020	.081
South, 25,000-99,999	5.4	.204	.159	.188	.140	.163	.126	.234	.178	.211	.159
West, 25,000-99,999	3.0	.059	.093	.059	.095	.059	.087	.000	.031	.000	.031
Northeast, 24,999 or Less	1.6	.079	.120	.079	.118	.079	.113	.000	.039	.000	.035
North Central, 24,999 or Less	7.4	.162	.233	.074	.143	.061	.122	.084	.162	.034	.104
South, 24,999 or Less	10.5	.253	.194	.245	.193	.206	.164	.253	.187	.234	.176
West, 24,999 or Less	2.9	.232	.205	.161	.137	.099	.089	.219	.208	.190	.187

Table 8. Proportion of Disabled School-Aged Children in Poverty For Different Definitions of Income

	Percentage of All School-Aged Children	1971 Income I Less Than Needs	1971 Income II Less Than Needs	1971 Income III Less Than Needs	Five-Year Average Income I Less Than Needs	Five-Year Average Income III Less Than Needs
Out of School Because of Disability (in 1971)	0.3%	.337	.337	.322	.351	.351
Requires Extra Care Because of Disability	2.1	.090	.089	.083	.093	.066
No Disability	96.5	.128	.107	.090	.104	.084
Not Ascertained	1.2	.079	.079	.079	.098	.079
TOTAL	100.0%	.127	.107	.090	.105	.085

Table 9. Distribution of School-Aged Children by the Number of Years Income was Less than Needs (For Incomes I and III) by Demographic Groups

Demographic Group	Percentage of All School-Aged Children	Average Number of Years in Poverty		Number of Years Income Less than Needs						
		Unadjusted	Adjusted	Five	Four	Three	Two	One	None	TOTAL
TOTAL POPULATION	100.0%									
Income I		.63	--	4.6	3.4	3.5	4.5	7.5	76.5	100.0%
Income III		.53	--	3.1	2.6	3.5	4.7	7.0	79.1	100.0
Race of Head										
White	80.1									
Income I		.33	.44	1.3	2.2	1.8	3.0	6.3	85.4	100.0
Income III		.25	.35	0.7	1.1	1.7	3.2	5.5	87.8	100.0
Black	15.2									
Income I		2.06	1.54	21.9	9.4	8.7	11.1	10.6	38.4	100.0
Income III		1.84	1.39	16.4	9.7	10.4	10.1	11.0	42.4	100.0
Other	4.7									
Income I		1.20	.93	4.6	4.2	15.1	7.6	19.3	49.3	100.0
Income III		1.08	.87	1.2	5.9	11.2	12.7	19.4	49.7	100.0
Age of Head										
Under 25	2.0									
Income I		1.07	.90	3.6	6.1	7.2	6.6	29.9	46.5	100.0
Income III		.95	.79	3.2	6.6	6.0	5.1	24.2	54.9	100.0
25-44	64.8									
Income I		.52	.60	3.2	2.4	3.0	4.4	8.1	78.8	100.0
Income III		.43	.50	1.9	1.9	3.3	4.2	7.0	81.6	100.0
45-64	31.7									
Income I		.77	.67	6.4	5.1	4.0	4.1	4.7	75.7	100.0
Income III		.65	.57	4.6	3.5	3.9	5.3	5.6	77.2	100.0
65 or More	1.4									
Income I		2.27	.95	30.5	4.9	5.2	13.6	12.4	33.4	100.0
Income III		1.98	.76	24.1	11.3	0.0	9.1	12.8	42.7	100.0
Education of Head										
5 Grades or Less	5.8									
Income I		2.66	2.00	30.1	9.3	15.4	10.1	11.9	23.2	100.0%
Income III		2.31	1.69	19.2	15.6	9.0	15.9	11.0	29.2	100.0
6-11 Grades	35.2									
Income I		.92	.72	6.2	4.8	4.9	7.9	11.5	64.9	100.0
Income III		.79	.61	4.7	3.7	5.0	7.3	11.5	67.8	100.0
12 Grades	20.3									
Income I		.39	.44	2.3	2.7	1.8	2.4	6.3	84.5	100.0
Income III		.29	.34	1.6	0.7	2.5	3.0	4.6	87.6	100.0
12 Grades Plus Additional Training	22.6									
Income I		.22	.45	0.9	1.3	1.5	1.2	5.5	89.6	100.0
Income III		.17	.38	0.1	0.6	2.1	1.5	4.5	91.2	100.0
College Degree, or More	14.4									
Income I		.04	.40	0.0	0.0	0.6	0.4	1.0	97.9	100.0
Income III		.02	.34	0.0	0.0	0.0	0.4	0.6	99.0	100.0
Not Ascertained	1.6									
Income I		1.42	.86	2.3	18.1	4.6	18.1	8.0	48.9	100.0
Income III		1.12	.65	0.7	7.4	15.0	8.0	17.9	51.0	100.0
Sex-Marital Status										
Married Couple	83.0									
Income I		.43	.49	2.2	2.5	3.0	2.7	7.0	82.6	100.0
Income III		.35	.41	1.5	1.8	2.4	3.5	5.7	85.0	100.0
Unmarried Female	15.5									
Income I		1.68	1.38	16.7	7.2	6.2	13.3	10.1	46.5	100.0
Income III		1.43	1.17	10.8	7.5	8.1	10.9	12.9	49.8	100.0
Unmarried Male	1.5									
Income I		1.42	1.05	10.2	13.1	1.4	12.7	8.7	53.9	100.0
Income III		1.19	.88	10.2	0.1	14.5	3.0	18.3	54.0	100.0

Table 9. (Continued)

Demographic Group	Percentage of All School-Aged Children	Average Number of Years in Poverty		Number of Years Income Less than Needs						
		Unadjusted	Adjusted	Five	Four	Three	Two	One	None	TOTAL
Region										
Northeast	27.3									
Income I		.37	--	0.6	3.5	1.4	3.2	9.7	81.7	100.0
Income III		.31	--	0.4	0.8	3.3	4.0	8.4	83.1	100.0
North Central	29.4									
Income I		.38	--	1.8	2.0	2.9	3.2	6.8	83.4	100.0
Income III		.29	--	0.7	1.3	2.4	4.0	5.0	86.6	100.0
South	26.5									
Income I		1.15	--	12.5	4.5	4.5	6.6	7.7	64.1	100.0
Income III		1.03	--	9.6	6.1	3.7	5.7	8.6	66.4	100.0
West	16.8									
Income I		.68	--	3.5	3.9	6.2	5.4	5.1	75.8	100.0
Income III		.52	--	1.6	2.5	5.5	5.2	5.6	79.5	100.0
Number of Years Head Had Disability										
Zero	68.9									
Income I		.33	--	2.1	1.3	2.1	2.2	6.6	85.7	100.0
Income III		.28	--	1.4	1.0	2.2	2.2	5.5	87.6	100.0
One	11.4									
Income I		.80	--	5.4	4.7	4.5	8.1	4.5	72.7	100.0
Income III		.71	--	4.5	3.9	2.6	10.1	3.4	75.6	100.0
Two	6.5									
Income I		1.14	--	4.6	9.3	8.0	10.0	9.9	58.2	100.0
Income III		.84	--	4.2	1.7	8.7	9.7	11.0	64.7	100.0
Three	4.3									
Income I		1.61	--	18.3	4.7	4.7	12.0	12.3	48.0	100.0
Income III		1.40	--	10.0	10.6	5.9	8.2	12.9	52.3	100.0
Four	4.3									
Income I		1.50	--	7.9	16.0	6.7	7.7	10.9	50.9	100.0
Income III		1.33	--	6.8	9.0	11.9	7.2	12.8	52.3	100.0
Five	4.6									
Income I		2.31	--	23.9	9.6	10.7	11.3	18.2	26.3	100.0
Income III		1.89	--	13.7	11.2	8.1	15.1	21.0	30.9	100.0

Table 10. Adjusted Explanatory Power ($Beta^2$) of Selected Demographic Variables, for Whether School-Aged Children Are in Poverty, Defined by Different Measures of Income

Demographic Variables	Measures of Poverty: 1971 Income I Less Than Needs		1971 Income II Less Than Needs		1971 Income III Less Than Needs		Five-Year Average Income I Less Than Five-Year Average Needs		Five-Year Average Income III Less Than Five-Year Average Needs	
	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank
Race	.035	(3)	.051	(1)	.046	(1)	.064	(1)	.082	(1)
Sex-Marital Status	.053	(1)	.050	(2)	.044	(2)	.033	(3)	.029	(4)
Education of Head	.040	(2)	.036	(3)	.026	(3)	.061	(2)	.060	(2)
Region-City Size	.021	(5)	.019	(5)	.015	(4)	.030	(4)	.035	(3)
Family Disabilities	.030	(4)	.025	(4)	.014	(5)	.024	(5)	.012	(5)
Age of Head	.002	(6)	.002	(6)	.001	(6)	.001	(6)	.001	(6)
	$R^2 = .259$		$R^2 = .267$		$R^2 = .212$		$R^2 = .319$		$R^2 = .315$	

Table 11. Comparative Classifications of School-Aged Children in Poverty for Different Definitions of Income

Income Definition	(1) Percentage of All School-Aged Children Who Were in Poverty by Row Definition of Income	Percentage of Column (1) NOT Poor by Different Column Definitions of Income (Figures in Parentheses Are Percentages Computed on the TOTAL Population of School-Aged Children)				
		(2) 1971 Income I	(3) 1971 Income II	(4) 1971 Income III	(5) Five-Year Average Income I	(6) Five-Year Average Income III
1971 Income I	12.7%	--	16.0 (2.0)	29.2 (3.7)	34.4 (4.4)	47.5 (6.0)
1971 Income II	10.7	0.0 (0.0)	--	15.7 (1.7)	32.7 (3.5)	41.8 (4.5)
1971 Income III	9.0	0.0 (0.0)	0.0 (0.0)	--	32.7 (2.9)	40.9 (3.7)
Five-Year Average Income I	10.5	20.4 (2.1)	31.4 (3.3)	42.2 (4.4)	--	20.2 (2.1)
Five-Year Average Income III	8.5	21.2 (1.8)	26.7 (2.3)	37.2 (3.2)	1.3 (0.1)	--

Table 12. Subnational Correlations Between Different Measures of Poverty
(For 16 Urban-Region Groups)

Measures of Poverty	1971 Income I Less Than Needs	1971 Income II Less Than Needs	1971 Income III Less Than Needs	5-Year Average Income I Less Than Needs	5-Year Average Income III Less Than Needs	Number of Years Income I Less Than Needs	Number of Years Income III Less Than Needs
1971 Income I Less Than Needs	--	.905	.824	.853	.794	.914	.888
1971 Income II Less Than Needs		--	.959	.809	.784	.909	.933
1971 Income III Less Than Needs			--	.794	.795	.883	.935
Five-Year Average Income I Less Than Needs				--	.983	.962	.940
Five-Year Average Income III Less Than Needs					--	.950	.939
Number of Years Income I Less Than Needs						--	.987
Number of Years Income III Less Than Needs							--

Table 13. Correlation Coefficients Between Different Measures of Income and Poverty, All Families

	1971 Income I	1971 Income IV	1971 Income V	Five-Year Average Income I	Five-Year Average Income IV	Five-Year Average Income V	1971 Income I/ Needs	1971 Income IV/ Needs	1971 Income V/ Needs	Average Income I/ Needs	Average Income IV/ Needs	Average Income V/ Needs	Number Of Years Income I Less Than Needs	Number Of Years Income IV Less Than Needs	Number Of Years Income V Less Than Needs
1971 Income I	--	.991	.986	.924	.922	.914	.854	.834	.818	.761	.744	.727	-.354	-.357	-.307
1971 Income IV		--	.995	.918	.925	.921	.829	.823	.808	.740	.733	.716	-.374	-.377	-.324
1971 Income V			--	.917	.928	.931	.825	.820	.816	.743	.737	.730	-.367	-.370	-.322
Five-Year Average Income I				--	.995	.990	.802	.782	.778	.847	.831	.814	-.388	-.393	-.343
Five-Year Average Income IV					--	.996	.786	.777	.774	.824	.819	.802	-.401	-.414	-.361
Five-Year Average Income V						--	.777	.767	.775	.822	.818	.811	-.400	-.406	-.359
1971 Income I/Needs							--	.992	.982	.912	.904	.894	-.364	-.370	-.327
1971 Income IV/Needs								--	.993	.910	.914	.906	-.391	-.397	-.352
1971 Income V/Needs									--	.910	.916	.920	-.383	-.389	-.352
Average Income I/Needs										--	.995	.985	-.400	-.406	-.364
Average Income IV Needs											--	.993	-.427	-.435	-.390
Average Income V Needs												--	-.415	-.424	-.388
Number of Years Income I Less Than Needs													--	.987	.909
Number of Years Income IV Less Than Needs														--	.909
Number of Years Income V Less Than Needs															--

Table 14. Level of Association (Eta^2) of Various Demographic Variables With Different Measures of Income, All Families

Demographic Category	1971 Income I	1971 Income IV	1971 Income V	5-Year Average Income I	5-Year Average Income IV	5-Year Average Income V
Labor force status and occupation of head	.313	.314	.303	.312	.315	.301
Education of wife	.261	.277	.276	.256	.272	.268
Education of head	.192	.196	.197	.210	.215	.215
Occupation of wife	.183	.199	.196	.169	.184	.180
Wife's annual work hours	.162	.178	.175	.147	.162	.157
Marital status of head	.147	.165	.163	.144	.160	.156
Sex of head	.116	.128	.124	.112	.122	.119
Age of head	.108	.108	.098	.110	.111	.099
Head had disability	.079	.084	.079	.084	.089	.083
Number of children in household age 0-17	.053	.065	.060	.042	.052	.045
City size	.041	.045	.044	.047	.052	.050
Race of head	.026	.028	.030	.033	.035	.038
Region	.016	.019	.020	.019	.023	.025
One-year family composition change	.004	.004	.004	.001	.001	.001
Number of years head had disability				.120	.126	.117
Five-year family composition change				.148	.166	.165

Table 15. Level of Association (Eta^2) of Various Demographic Variables with Different Measures of Income/Needs and Number of Years in Poverty, All Families

Demographic Category	1971 Income I/Needs	1971 Income IV/Needs	1971 Income V/Needs	Five-Year Average Income I/Needs	Five-Year Average Income IV/Needs	Five-Year Average Income V/Needs	Number of Years Income I Less Than Needs	Number of Years Income IV Less Than Needs	Number of Years Income V Less Than Needs
Labor force status and occupation of head	.224	.212	.198	.208	.200	.185	.160	.153	.111
Education of head	.187	.193	.191	.204	.212	.207	.147	.148	.137
Education of wife	.144	.144	.139	.147	.149	.141	.114	.116	.093
Occupation of wife	.084	.084	.078	.076	.077	.070	.064	.063	.048
Wife's annual work hours	.058	.056	.049	.048	.047	.040	.061	.059	.044
Head had disability	.056	.056	.050	.058	.057	.051	.097	.093	.074
Sex of head	.042	.041	.037	.040	.039	.034	.053	.050	.037
Age of head	.042	.032	.030	.034	.027	.025	.036	.032	.015
Number of children in household between ages 0-17	.040	.047	.053	.042	.049	.056	.036	.042	.043
Race of head	.038	.044	.049	.046	.053	.059	.080	.079	.097
City size	.029	.032	.031	.034	.038	.035	.034	.034	.023
One-year family composition change	.004	.004	.004	.002	.002	.002	.001	.001	.000
Number of years head had disability				.078	.076	.067	.140	.133	.102
Five-year family composition change				.044	.045	.040	.064	.061	.047

Table 16. Distribution of Selected Demographic Groups by 1971 Income/Needs Ratios, for Incomes I and V, All Families

Demographic Group	Percentage of Total Population	1971 Income/Needs Ratios .00-.24	.25-.49	.50-.74	.75-.99	1.00-1.24	1.25-1.49	1.50-1.74	1.75-1.99	2.00 or More	TOTAL
TOTAL POPULATION	100.0%										
Income I		0.2	1.3	2.6	4.7	4.7	5.7	4.9	5.3	70.7	100.0%
Income V		0.0	0.3	2.0	4.0	5.2	5.4	5.7	5.6	71.7	100.0
Race of Head											
White	86.9%										
Income I		0.3	0.8	1.9	3.7	4.0	5.1	4.6	4.8	74.8	100.0%
Income V		0.0	0.2	1.2	3.1	4.1	4.6	5.5	5.2	76.0	100.0
Black	10.4										
Income I		0.2	4.9	8.8	11.7	10.2	9.4	7.1	8.1	39.7	100.0
Income V		0.0	1.2	8.5	10.6	13.5	11.1	7.1	9.0	38.8	100.0
Other	2.7										
Income I		0.0	1.1	2.2	8.9	4.8	10.1	5.9	7.9	59.0	100.0
Income V		0.0	0.8	2.0	8.5	8.1	8.2	8.4	5.9	58.2	100.0
Age of Head											
Under 25	2.0										
Income I		0.0	0.2	0.3	3.8	9.7	8.4	4.3	6.1	67.0	100.0
Income V		0.0	0.0	0.4	0.7	8.1	13.4	5.0	6.3	66.1	100.0
25-44	39.1										
Income I		0.3	0.6	1.3	4.2	3.5	4.4	3.3	5.2	77.1	100.0
Income V		0.1	0.4	1.0	3.5	4.9	5.0	5.3	4.8	75.2	100.0
45-64	38.0										
Income I		0.2	1.7	2.1	3.5	3.6	3.8	4.0	4.4	76.6	100.0
Income V		0.0	0.5	1.9	3.5	3.6	4.3	4.7	5.5	76.0	100.0
65 or More	20.8										
Income I		0.2	1.8	6.2	7.9	8.4	11.0	9.4	6.9	48.2	100.0
Income V		0.0	0.0	4.2	6.3	8.4	7.6	8.6	7.2	57.6	100.0
Sex and Marital Status of Head											
Married Couple	67.9										
Income I		0.1	0.8	1.2	3.2	2.9	4.3	3.6	4.9	78.9	100.0
Income V		0.0	0.3	1.0	2.3	3.7	4.2	5.1	4.8	78.6	100.0
Unmarried Female	23.8										
Income I		0.5	2.8	6.3	8.7	8.3	8.2	7.3	6.6	51.3	100.0
Income V		0.0	0.7	4.6	8.5	8.5	7.4	7.5	7.7	55.0	100.0
Unmarried Male	8.3										
Income I		0.3	0.9	3.3	5.3	8.9	9.1	8.1	4.7	59.4	100.0
Income V		0.0	0.0	2.5	5.3	8.2	9.6	5.8	6.2	62.4	100.0
Education of Head											
5 Grades or Less	6.7										
Income I		0.5	5.6	14.1	16.4	10.4	8.3	9.1	7.5	28.1	100.0
Income V		0.0	0.8	11.4	15.1	16.9	10.0	8.4	7.8	29.5	100.0
6-11 Grades	36.8										
Income I		0.4	1.8	3.5	6.8	6.5	9.4	7.9	7.7	55.9	100.0
Income V		0.0	0.6	2.6	6.1	6.6	8.0	9.8	8.0	58.3	100.0
12 Grades	17.9										
Income I		0.2	0.4	1.3	3.0	3.9	3.6	2.9	4.4	80.4	100.0
Income V		0.2	0.2	0.9	2.3	4.0	4.4	3.6	4.6	79.8	100.0
12 Grades Plus Additional Training	23.9										
Income I		0.0	0.6	0.4	1.6	2.5	3.2	2.6	3.2	85.9	100.0
Income V		0.0	0.0	0.5	1.0	2.9	3.2	2.7	3.7	86.0	100.0
College Degree, or More	13.5										
Income I		0.2	0.0	0.0	0.7	1.8	1.3	1.4	1.6	92.9	100.0
Income V		0.0	0.2	0.0	0.4	1.0	1.7	1.3	2.2	93.3	100.0
Not Ascertained	1.2										
Income I		0.0	0.0	4.1	6.5	4.1	4.0	2.9	12.4	66.1	100.0
Income V		0.0	0.0	0.0	6.5	8.6	1.8	9.3	9.1	64.6	100.0
Disability of Head											
No Disability	77.2										
Income I		0.2	0.5	1.3	2.9	3.1	4.6	4.1	4.6	78.8	100.0
Income V		0.0	0.2	0.8	2.5	3.6	4.3	5.0	4.9	78.7	100.0
Disability	22.8										
Income I		0.5	4.0	7.1	10.8	10.0	9.2	7.5	7.5	43.4	100.0
Income V		0.0	0.8	6.2	9.4	10.5	9.2	8.1	8.0	47.9	100.0

Table 17. Distribution of Selected Demographic Groups by Five-Year Average Income/Needs Ratios, for Incomes I and V, All Families

Demographic Group	Percentage of Total Population	Five-Year Average Income/Needs Ratios									
		.00-.24	.25-.49	.50-.74	.75-.99	1.00-1.24	1.25-1.49	1.50-1.74	1.75-1.99	2.00 or More	TOTAL
TOTAL POPULATION	100.0%										
Income I		0.0	0.6	2.4	4.0	4.2	5.1	5.1	5.5	72.8	100.0
Income V		0.0	0.2	1.5	3.6	4.6	5.3	5.9	6.3	72.5	100.0
Race of Head											
White	86.9%										
Income I		0.1	0.3	1.6	3.0	3.3	4.4	4.8	5.3	77.2	100.0%
Income V		0.0	0.0	0.8	2.2	3.6	4.5	5.7	5.9	77.3	100.0
Black	10.4										
Income I		0.1	3.9	9.5	11.4	10.8	10.7	7.4	6.5	39.8	100.0
Income V		0.0	1.6	7.4	14.0	12.0	12.1	7.3	9.1	36.5	100.0
Other	2.7										
Income I		0.0	0.0	0.8	8.2	8.5	4.9	8.8	9.2	59.5	100.0
Income V		0.0	0.0	0.8	9.4	8.6	5.0	9.0	11.6	55.7	100.0
Age of Head											
Under 25	2.0										
Income I		0.0	0.0	0.1	5.3	4.7	7.6	13.2	8.4	60.6	100.0
Income V		0.0	0.0	0.0	4.4	6.3	8.9	16.3	15.8	48.2	100.0
25-44	39.1										
Income I		0.0	0.4	0.8	2.6	3.1	3.6	4.5	5.7	79.4	100.0
Income V		0.0	0.1	0.6	2.6	3.7	4.8	5.7	6.5	76.1	100.0
45-64	38.0										
Income I		0.1	0.6	2.0	3.9	2.9	3.7	4.8	4.9	77.0	100.0
Income V		0.0	0.3	1.8	3.3	3.7	4.1	5.4	5.4	76.1	100.0
65 or More	20.8										
Income I		0.2	1.2	6.4	6.7	8.8	10.1	6.3	6.3	54.0	100.0
Income V		0.0	0.2	2.7	6.0	8.1	8.2	6.4	6.9	61.6	100.0
Sex and Marital Status of Head											
Married Couple	67.9										
Income I		0.0	0.4	1.1	2.3	2.7	3.6	4.4	4.8	80.6	100.0
Income V		0.0	0.2	0.8	2.0	3.1	4.2	4.8	5.8	79.2	100.0
Unmarried Female	23.8										
Income I		0.3	1.2	6.0	8.1	8.2	7.7	7.1	7.1	54.2	100.0
Income V		0.0	0.3	3.2	7.8	8.4	8.0	8.6	7.4	56.4	100.0
Unmarried Male	8.3										
Income I		0.0	0.9	2.6	6.3	5.3	9.4	5.6	6.9	62.9	100.0
Income V		0.0	0.0	2.5	4.7	6.5	6.6	7.5	8.0	64.1	100.0
Education of Head											
5 Grades or Less	6.7										
Income I		0.5	2.7	15.5	18.1	12.5	10.0	8.1	5.7	26.9	100.0
Income V		0.0	1.2	8.8	20.4	13.1	11.8	8.7	8.4	27.5	100.0
6-11 Grades	36.8										
Income I		0.1	1.1	3.1	5.3	6.6	8.8	8.8	8.2	58.1	100.0
Income V		0.0	0.3	2.1	4.4	7.3	9.2	9.6	7.7	59.4	100.0
12 Grades	17.9										
Income I		0.0	0.1	0.8	2.5	2.6	2.7	4.4	5.2	81.7	100.0
Income V		0.0	0.0	0.6	1.3	3.1	3.7	4.5	6.2	80.7	100.0
12 Grades Plus Additional Training	23.9										
Income I		0.0	0.2	0.3	1.1	1.4	2.2	2.0	3.7	89.1	100.0
Income V		0.0	0.0	0.1	1.3	1.7	1.4	3.1	6.0	86.5	100.0
College Degree, or More	13.5										
Income I		0.0	0.0	0.0	0.3	1.1	0.9	0.7	1.5	95.5	100.0
Income V		0.0	0.0	0.0	0.1	0.6	0.6	0.9	2.6	95.3	100.0
Not Ascertained	1.2										
Income I		0.0	0.0	0.1	9.9	3.5	3.8	1.9	11.4	69.3	100.0
Income V		0.0	0.0	0.1	6.4	5.1	5.0	11.4	4.8	67.1	100.0

Table 17. (Continued)

Demographic Group	Percentage of Total Population	Five-Year Average Income/Needs Ratios									
		.00-.24	.25-.49	.50-.74	.75-.99	1.00-1.24	1.25-1.49	1.50-1.74	1.75-1.99	2.00 or More	TOTAL
Number of Years of Disability of Head											
None	59.5										
Income I		0.0	0.3	0.7	1.2	2.0	2.9	3.7	5.2	84.1	100.0
Income V		0.0	0.1	0.4	1.3	2.2	3.2	5.1	5.9	81.9	100.0
One	11.9										
Income I		0.0	0.3	1.4	3.4	3.2	5.2	5.2	5.1	76.2	100.0
Income V		0.0	0.3	0.6	3.3	3.6	4.8	4.5	5.3	77.7	100.0
Two	6.8										
Income I		0.1	0.3	3.2	3.6	7.4	6.3	8.8	8.1	62.1	100.0
Income V		0.1	0.2	1.6	3.5	7.4	7.4	7.2	8.7	64.0	100.0
Three	5.6										
Income I		0.0	3.5	1.6	6.6	8.7	7.6	7.5	5.8	58.6	100.0
Income V		0.0	0.8	2.1	6.5	7.7	8.4	6.3	7.8	60.4	100.0
Four	7.6										
Income I		0.1	1.2	6.7	12.0	7.6	9.0	11.8	5.7	46.0	100.0
Income V		0.0	0.2	3.3	8.3	11.8	7.8	12.3	8.6	47.6	100.0
Five	8.5										
Income I		0.8	1.6	11.8	15.7	13.0	14.2	5.0	6.4	31.5	100.0
Income V		0.0	0.2	8.2	14.2	12.9	15.0	6.6	6.4	36.6	100.0

Table 18. Adjusted Explanatory Power ($Beta^2$) of Selected Demographic Variables, For Different Measures of Income and Income/Needs (All Families)

Demographic Variable	1971 Income I		Five-Year Average Income I		1971 Income I/ Needs		1971 Income II/ Needs		1971 Income III/Needs		Five-Year Average Income I/ Needs		Five-Year Average Income III/Needs		Number of Years Income I Less Than Needs		Number of Years Income III Less Than Needs	
	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank	$Beta^2$	Rank
Education of Head	.117	(1)	.129	(1)	.147	(1)	.162	(1)	.161	(1)	.162	(1)	.176	(1)	.062	(1)	.061	(1)
Race	.003	(6)	.006	(6)	.010	(6)	.013	(6)	.013	(6)	013	(6)	.017	(6)	.033	(4)	.045	(2)
Sex-Marital Status of Head	.090	(2)	.083	(2)	.024	(3)	.025	(4)	.024	(4)	.023	(4)	022	(5)	.031	(5)	.024	(5)
Region-City Size	.032	(4)	.037	(4)	.022	(4)	.025	(3)	.025	(3)	.026	(3)	.028	(3)	.034	(3)	.028	(4)
Disability of Head	.013	(5)	.016	(5)	.017	(5)	.022	(5)	.021	(5)	.020	(5)	.023	(4)	.037	(2)	.032	(3)
Age of Head	.036	(3)	.043	(3)	.039	(2)	.056	(2)	.055	(2)	.044	(2)	.066	(2)	.005	(6)	.008	(6)
	R^2= .391		R^2= .415		R^2= .291		R^2= .317		R^2= .314		R^2= .314		R^2= .340		R^2= .291		R^2= .266	

Table 19. Measures of Association (Cramer's V and Tau B) Between Selected Demographic Variables and Various Measures of Poverty

Demographic Group	1971 Income I/ Needs	1971 Income V/ Needs	Five-Year Average Income I/ Needs	Five-Year Average Income V/ Needs	Number of Years Income I Less Than Needs	Number of Years Income V Less Than Needs
Race of Head	0.19	0.21	0.23	0.26	0.21	0.23
Age of Head	0.16 (-0.17)	0.11 (-0.10)	0.15 (-0.16)	0.11 (-0.08)	0.13 (0.11)	0.10 (0.05)
Sex-Marital Status of Head	0.21	0.18	0.20	0.17	0.19	0.16
Education of Head	0.20 (0.33)	0.19 (0.32)	0.22 (0.36)	0.21 (0.34)	0.18 (-0.29)	0.17 (-0.27)
Disability of Head	0.36 (-0.33)	0.32 (-0.29)	0.21 (-0.34)	0.18 (-0.29)	0.17 (0.30)	0.15 (0.26)

NOTE: Tau B's are in parentheses.

Table 20. Percentage of Various Demographic Groups which Were in Poverty, For Various Measures of Poverty, All Families

Demographic Group	Percentage of Total Population	1971 Income I Less Than Needs	1971 Income IV Less Than Needs	1971 Income V Less Than Needs	Five-Year Average Income I Less Than Five-Year Average Needs	Five-Year Average Income IV Less Than Five-Year Average Needs	Five-Year Average Income V Less Than Five-Year Average Needs	Average Number of Years Income I Less Than Needs	Average Number of Years Income IV Less Than Needs	Average Number of Years Income V Less Than Needs
GRAND MEAN	100.0	.088	.092	.063	.071	.076	.053	.46	.49	.36
Race of Head										
White	86.9	.067	.070	.045	.050	.053	.030	.34	.36	.24
Black	10.4	.256	.264	.204	.249	.266	.230	1.42	1.47	1.27
Other	2.7	.123	.127	.113	.090	.106	.102	.65	.75	.63
Age of Head										
Under 25	2.0	.044	.064	.012	.054	.070	.044	.75	.82	.70
25-44	39.1	.065	.067	.047	.037	.044	.033	.28	.32	.25
45-64	38.0	.074	.079	.060	.067	.071	.054	.40	.43	.34
65 or older	20.8	.160	.164	.106	.145	.148	.088	.87	.88	.56
Sex of Head										
Male	75.7	.058	.061	.040	.044	.050	.034	.31	.33	.25
Female	24.3	.182	.188	.137	.156	.159	.112	.94	.97	.70
Marital Status of Head										
Married	67.9	.053	.056	.035	.038	.043	.029	.27	.30	.21
Single	5.2	.067	.068	.051	.081	.097	.062	.54	.60	.44
Widowed	15.3	.184	.191	.147	.170	.171	.110	.98	1.00	.68
Divorced	8.0	.119	.122	.073	.079	.084	.071	.63	.67	.51
Separated	3.5	.298	.308	.240	.252	.266	.200	1.38	1.41	1.22
One-Year Family Composition Change										
Same Head and Wife	94.8	.085	.088	.061	.071	.076	.053	.45	.48	.35
Head Same, but Change in Wife	2.0	.100	.102	.100	.057	.067	.037	.43	.43	.40
1971 Wife Now Head	2.5	.215	.228	.127	.118	.119	.052	.73	.74	.46
Female Who was Head in 1971 Still in Household, but New Head	0.6	.036	.053	.036	.060	.060	.060	.40	.45	.37
City Size										
500,000 or more	34.0	.055	.058	.035	.038	.042	.029	.29	.32	.24
100,000 - 499,999	21.7	.068	.070	.051	.058	.062	.039	.35	.38	.26
50,000 - 99,999	11.5	.075	.086	.065	.074	.077	.059	.46	.50	.40
25,000 - 49,999	7.2	.066	.069	.063	.061	.067	.047	.39	.40	.29
10,000 - 24,999	9.9	.119	.120	.086	.096	.102	.073	.61	.63	.48
Under 10,000	15.6	.185	.192	.128	.149	.158	.106	.91	.96	.67
Outside Continental US	0.1	.000	.000	.000	.233	.223	.223	.89	.89	.67
Region										
Northeast	23.9	.051	.053	.038	.031	.032	.019	.23	.25	.19
North Central	29.1	.073	.074	.048	.048	.053	.031	.34	.36	.25
South	29.8	.144	.153	.111	.136	.146	.110	.81	.86	.65
West	17.1	.065	.070	.042	.055	.056	.035	.37	.39	.26
Outside Continental US	0.1	.000	.000	.000	.130	.130	.130	.52	.52	.39
Disability of Head										
No Disability	77.2	.048	.052	.034	.032	.037	.024	.26	.29	.21
Disability	22.8	.224	.227	.163	.204	.210	.151	1.14	1.17	.87

Table 20. (Continued)

Demographic Group	Percentage of Total Population	1971 Income I Less Than Needs	1971 Income IV Less Than Needs	1971 Income V Less Than Needs	Five-Year Average Income I Less Than Five-Year Average Needs	Five-Year Average Income IV Less Than Five-Year Average Needs	Five-Year Average Income V Less Than Five-Year Average Needs	Average Number of Years Income I Less Than Needs	Average Number of Years Income IV Less Than Needs	Average Number of Years Income V Less Than Needs
Number of Children in Household Between Ages of 0-17										
0	51.5	.090	.092	.061	.076	.079	.049	.49	.51	.34
1	14.1	.052	.056	.041	.051	.056	.043	.34	.36	.29
2	15.7	.055	.057	.038	.031	.039	.024	.26	.27	.22
3	9.2	.055	.064	.039	.052	.059	.042	.35	.39	.32
4	5.1	.166	.169	.135	.096	.098	.071	.62	.68	.56
5	2.4	.195	.224	.165	.146	.159	.152	.90	.99	.85
6	1.1	.306	.328	.234	.251	.254	.200	1.31	1.48	1.18
7	0.6	.367	.368	.289	.447	.451	.441	2.01	2.11	1.90
8 or more	0.3	.599	.616	.575	.525	.638	.533	2.54	2.87	2.30
Labor Force Status and Occupation of Head										
Professional, Technical	12.4	.008	.008	.005	.003	.008	.003	.05	.08	.04
Managers, Officials, and Proprietors	8.5	.004	.004	.004	.000	.000	.000	.01	.01	.01
Self-Employed Businessmen	4.8	.061	.061	.051	.010	.010	.010	.19	.23	.19
Clerical and Sales	10.5	.018	.022	.010	.010	.012	.009	.14	.17	.11
Craftsmen and Foremen	13.4	.011	.015	.010	.014	.015	.015	.11	.13	.11
Operatives	10.4	.043	.050	.038	.024	.031	.027	.23	.26	.23
Laborers and Service Workers	7.9	.125	.136	.101	.115	.129	.097	.74	.81	.65
Farmers and Farm Mgrs.	2.2	.202	.204	.097	.083	.124	.021	.84	.93	.54
Miscellaneous	1.6	.000	.000	.000	.000	.000	.000	.08	.08	.06
Unemployed	1.3	.249	.255	.194	.161	.181	.170	1.09	1.15	1.06
Retired, Permanently Disabled	19.1	.192	.194	.132	.164	.168	.121	.95	.98	.69
Housewife	7.4	.238	.298	.210	.274	.275	.170	1.54	1.56	1.08
Student	0.6	.019	.019	.012	.084	.112	.007	.41	.46	.45
Wife's Annual Work Hours										
No Wife	32.5	.160	.165	.123	.141	.147	.102	.86	.89	.65
Wife Did Not Work	35.0	.077	.080	.048	.054	.061	.038	.35	.38	.27
2 - 500	7.7	.052	.062	.039	.039	.042	.039	.28	.31	.25
501-1000	5.0	.046	.048	.040	.030	.030	.023	.20	.22	.17
1001-1500	5.2	.017	.019	.011	.013	.015	.012	.15	.18	.14
1501-2000	11.0	.008	.009	.004	.010	.014	.010	.09	.11	.09
2001-2500	3.0	.022	.022	.021	.012	.012	.012	.18	.23	.21
2500 or more	0.6	.016	.016	.016	.006	.014	.006	.27	.28	.14
Occupation of Wife										
Skilled White Collar	6.8	.012	.012	.005	.000	.000	.000	.09	.10	.08
Sales and Clerical	12.2	.012	.013	.009	.001	.001	.001	.07	.08	.07
Skilled Blue Collar	5.4	.019	.020	.011	.028	.029	.022	.17	.19	.14
Unskilled Blue Collar	7.9	.069	.080	.060	.063	.072	.063	.40	.46	.38
Wife Did Not Work	35.2	.077	.080	.048	.054	.061	.037	.35	.38	.27
No Wife	32.5	.160	.165	.123	.141	.147	.102	.86	.89	.65
Education of Wife										
5 Grades or Less	1.9	.356	.356	.260	.324	.353	.259	1.98	2.10	1.65
6-11 Grades	21.6	.096	.104	.063	.079	.086	.059	.48	.51	.38
12 Grades	20.4	.027	.029	.015	.006	.010	.005	.11	.12	.08
12 Grades Plus Additional Training	16.6	.012	.012	.009	.002	.002	.002	.04	.05	.04
College Degree, or More	6.3	.004	.004	.004	.000	.002	.000	.08	.10	.08
No Wife	33.2	.158	.163	.120	.140	.146	.101	.85	.88	.65

Table 20. (Continued)

Demographic Group	Percentage of Total Population	1971 Income I Less Than Needs	1971 Income IV Less Than Needs	1971 Income V Less Than Needs	Five-Year Average Income I Less Than Five-Year Average Needs	Five-Year Average Income IV Less Than Five-Year Average Needs	Five-Year Average Income V Less Than Five-Year Average Needs	Average Number of Years Income I Less Than Needs	Average Number of Years Income IV Less Than Needs	Average Number of Years Income V Less Than Needs
Education of Head										
5 Grades or Less	6.7	.365	.375	.273	.368	.384	.305	1.91	2.00	1.59
6-11 Grades	36.8	.125	.130	.093	.096	.101	.067	.64	.67	.49
12 Grades	17.9	.049	.054	.032	.034	.037	.019	.25	.27	.17
12 Grades Plus Additional Training	23.9	.026	.027	.015	.016	.019	.014	.16	.18	.13
College Degree, or More	13.5	.009	.009	.005	.003	.006	.001	.05	.07	.03
Not Ascertained	1.2	.106	.116	.065	.100	.133	.065	.56	.56	.41
Amount of ADC Payments										
0	97.0	.078	.082	.056	.062	.067	.045	.41	.44	.31
$1-499	0.2	.500	.500	.098	.471	.471	.098	1.94	2.02	1.44
500-999	0.4	.548	.548	.532	.516	.523	.378	2.48	2.50	2.37
1000-1999	0.9	.298	.308	.214	.360	.364	.356	1.89	1.91	1.54
2000-2999	0.7	.307	.345	.235	.295	.295	.243	1.90	2.03	1.72
3000-3999	0.6	.436	.477	.354	.399	.406	.259	1.98	2.08	1.76
4000-4999	0.2	.626	.647	.481	.690	.690	.610	3.47	3.54	3.10
5000-7499	0.1	.536	.536	.495	.227	.227	.155	2.49	2.49	1.91
7500-9599	0.0	.875	.875	.000	1.000	1.000	1.000	4.88	4.88	4.00
Amount Saved on Food Stamps										
0	93.4	.060	.063	.043	.047	.051	.032	.33	.36	.25
$1-99	0.3	.128	.128	.022	.317	.317	.201	1.28	1.36	.91
100-249	1.9	.418	.419	.378	.355	.371	.275	1.98	2.06	1.66
250-499	1.7	.388	.409	.291	.294	.307	.260	1.79	1.82	1.52
500-749	1.2	.507	.530	.338	.389	.394	.298	2.17	2.29	1.64
750-999	0.8	.606	.619	.377	.554	.557	.445	2.68	2.81	2.45
1000-1999	0.7	.835	.837	.564	.832	.832	.774	3.87	4.02	3.33
2000 or More	0.1	1.000	1.000	.677	.946	.946	.516	3.87	3.87	3.55
Number of Years Head Had Disability										
0	59.5				.022	.026	.017	.19	.21	.16
1	11.9				.052	.055	.042	.37	.40	.30
2	6.8				.072	.091	.053	.56	.60	.42
3	5.6				.117	.121	.094	.84	.88	.57
4	7.6				.199	.204	.119	1.06	1.08	.82
5	8.5				.299	.303	.226	1.61	1.64	1.22

Table 20. (Continued)

Demographic Group	Percentage of Total Population	1971 Income I Less Than Needs	1971 Income IV Less Than Needs	1971 Income V Less Than Needs	Five-Year Average Income I Less Than Five-Year Average Needs	Five-Year Average Income IV Less Than Five-Year Average Needs	Five-Year Average Income V Less Than Five-Year Average Needs	Average Number of Years Income I Less Than Needs	Average Number of Years Income IV Less Than Needs	Average Number of Years Income V Less Than Needs
Five Year Family Composition Change										
Same Head and Wife	63.4				.039	.044	.030	.26	.29	.21
Same Head, Male, With No Wife for Entire Five Years	4.9				.107	.129	.079	.71	.76	.54
Same Head, Female, With No Husband for Entire Five Years	16.7				.177	.181	.130	1.04	1.07	.79
Single Male Head in 1968 Who Subsequently Married	1.0				.017	.033	.016	.28	.33	.31
Married Male Head in 1968 Whose Wife Left/Died and Male was Single in 1972	3.0				.078	.080	.058	.53	.56	.44
Married Male Head in 1968 Whose Wife Left/Died and Male was Married in 1972	0.9				.029	.029	.029	.23	.24	.24
Female Who Had Husband at Any Time During Five Years, Head in 1972	7.4				.097	.098	.065	.66	.67	.47
Female Who was Once Head of Household Still in Household in 1972, but No Longer Head	2.6				.062	.063	.039	.55	.58	.48

Table 21. Distribution of Selected Demographic Groups by Number of Years Income Was Less than Needs, for Incomes I and V, All Families

Demographic Group	Percentage of Total Population	Number of Years Income Less Than Needs 5	4	3	2	1	0	Total
TOTAL POPULATION	100.0%							
Income I		3.5	1.9	2.5	3.3	6.8	82.1	100.0%
Income V		2.2	1.3	2.3	3.2	5.9	85.1	100.0
Race of Head								
White	86.9							
Income I		2.3	1.2	1.8	2.8	6.0	85.8	100.0
Income V		1.3	0.7	1.5	2.6	4.9	89.0	100.0
Black	10.4							
Income I		13.2	7.3	6.7	7.4	11.8	53.5	100.0
Income V		10.1	6.8	7.2	7.4	13.0	55.7	100.0
Other	2.7							
Income I		2.9	1.8	7.3	3.9	13.3	70.8	100.0
Income V		2.6	0.9	8.8	4.9	10.2	72.7	100.0
Age of Head								
Under 25	2.0							
Income I		0.0	3.1	4.4	13.6	21.8	57.0	100.0
Income V		0.0	2.8	4.4	11.1	22.5	59.1	100.0
25-44	39.1							
Income I		1.5	1.0	1.9	2.5	6.3	86.9	100.0
Income V		1.0	0.8	2.3	2.3	5.5	88.1	100.0
45-64	38.0							
Income I		2.9	1.9	2.6	2.5	5.4	84.8	100.0
Income V		2.3	1.4	2.1	2.7	5.1	86.5	100.0
65 or more	20.8							
Income I		8.6	3.4	3.5	5.5	8.8	70.3	100.0
Income V		4.8	2.1	2.4	5.0	6.4	79.3	100.0
Sex-Marital Status of Head								
Married Couple	67.9							
Income I		1.6	1.2	1.7	1.8	5.0	88.6	100.0
Income V		1.1	0.6	1.5	2.1	4.6	90.1	100.0
Unmarried Female	23.8							
Income I		8.3	3.6	4.6	6.8	10.4	66.3	100.0
Income V		5.1	3.3	4.0	6.0	8.5	73.1	100.0
Unmarried Male	8.3							
Income I		4.9	2.4	2.7	5.5	10.6	73.8	100.0
Income V		3.1	1.6	3.6	4.2	8.6	78.8	100.0

Table 21. (Continued)

Demographic Group	Percentage of Total Population	Number of Years Income Less Than Needs 5	4	3	2	1	0	Total
Education of Head								
5 Grades or Less	6.7							
Income I		20.4	7.5	9.4	8.3	12.4	41.9	100.0
Income V		15.1	7.5	8.0	8.6	11.9	48.9	100.0
6-11 Grades	36.8							
Income I		4.4	2.7	3.6	5.3	9.8	74.1	100.0
Income V		2.8	1.7	3.3	5.0	8.7	78.5	100.0
12 Grades	17.9							
Income I		1.8	1.1	1.1	2.0	4.8	89.3	100.0
Income V		0.9	0.4	0.9	2.4	3.5	92.1	100.0
12 Grades Plus Additional Training	23.9							
Income I		0.6	0.4	1.1	1.5	4.7	91.7	100.0
Income V		0.2	0.4	1.3	1.0	4.1	93.0	100.0
College Degree of More	13.5							
Income I		0.0	0.1	0.6	0.3	2.2	96.9	100.0
Income V		0.0	0.1	0.1	0.3	1.6	97.9	100.0
Not Ascertained	1.2							
Income I		2.2	7.0	0.7	3.8	5.6	80.6	100.0
Income V		0.1	2.4	4.4	7.0	2.7	83.8	100.0
Number of Years of Disability of Head								
None	59.5							
Income I		0.9	0.7	1.0	1.7	4.9	90.8	100.0
Income V		0.6	0.6	1.0	1.4	4.4	92.0	100.0
One	11.9							
Income I		1.9	1.5	2.2	3.6	7.7	83.1	100.0
Income V		1.4	0.7	2.8	3.1	5.9	86.1	100.0
Two	6.8							
Income I		2.9	3.0	3.8	3.5	11.2	75.5	100.0
Income V		1.7	1.6	3.6	3.7	8.8	80.5	100.0
Three	5.6							
Income I		7.1	2.9	3.9	6.6	11.5	67.9	100.0
Income V		3.9	2.3	2.7	6.1	7.9	77.0	100.0
Four	7.6							
Income I		8.3	6.0	5.2	7.6	9.4	63.4	100.0
Income V		6.4	1.8	5.1	8.6	9.9	68.3	100.0
Five	8.5							
Income I		17.2	5.6	8.6	8.2	9.4	51.1	100.0
Income V		10.1	6.1	6.9	8.6	8.6	59.7	100.0

Table 22. Adjusted Explanatory Power (Beta) of Selected Demographic Variables, for Whether Families Are in Poverty, Defined by Different Measures of Income

Demographic Variables	1971 Income I Less Than Needs		1971 Income II Less Than Needs		1971 Income III Less Than Needs		Five-Year Average Income I Less Than Five-Year Average Needs		Five-Year Average Income III Less Than Five-Year Average Needs	
	Beta^2	Rank	Beta^2	Rank	Beta^2	Rank	Beta^2	Rank	Beta^2	Rank
Race	.016	(5)	.023	(3)	.018	(4)	.022	(4)	.037	(2)
Sex-Marital Status	.023	(3)	.021	(4)	.020	(3)	.021	(5)	.013	(5)
Education of Head	.045	(1)	.038	(1)	.031	(1)	.054	(1)	.050	(1)
Region-City Size	.019	(4)	.016	(5)	.015	(5)	.023	(3)	.021	(4)
Disability of Head	.031	(2)	.028	(2)	.023	(2)	.033	(2)	.025	(3)
Age of Head	.003	(6)	.006	(6)	.003	(6)	.001	(6)	.001	(6)
	R^2 = .181		R^2 = .167		R^2 = .141		R^2 = .216		R^2 = .197	

To obtain copies of the report, *The Measure of Poverty*, or additional copies of this or any of the other Technical Papers, please write to:

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